

THE MUSEUM
of
FAR EASTERN ANTIQUITIES
(Östasiatiska Samlingarna)
STOCKHOLM



Bulletin N:o 7

Stockholm 1935.

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THE HELIOTYPE PLATES HAVE BEEN
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BOKTRYCKERI, ESSELTE AB.,
STOCKHOLM 1936.

To Sven Hedin

**this volume is dedicated in commemoration
of his seventieth anniversary,
the 19th day of February 1935.**



Sven Hedin on his expedition 1899—1902,
aged 35, surveying a Central Asian lake.



**Sven Hedin during his expedition 1933—35,
aged 69, making a sketch at Etsin gol.**

The Museum of Far Eastern Antiquities is deeply indebted to »Humanistiska Fonden» for a liberal grant to cover a large part of the expenses for preparing this volume.

We would also express our gratitude to Dr. Emil Hultmark, who with a generous gift enabled us to prepare the coloured plates included in the article »The goldsmith in Ancient China».

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P R E F A C E

When in 1926 the Museum of Far Eastern Antiquities was inaugurated in order to receive the archaeological collections brought home from China by the undersigned, Dr. Sven Hedin very kindly suggested that his collection from Chinese Turkestan, which had from many years been stored away in the Ethnological Museum for lack of exhibition facilities, should be made accessible in the spacious and commodious exhibition premises granted to us. Following the suggestion made by Hedin and with the kind consent of Professor Gerhard Lindblom, Director of The Ethnological Museum, we received into our care these precious treasures from the sites of Loulan, Yotkan and Dandān-Uiliq. Ever since 1930 they have been exhibited in our »Southern Hall» and have formed one of our most attractive exhibits.

Only a part of these materials have so far been scientifically studied and described. Conrady's muchbelated volume »Die chinesischen Handschriften und sonstigen Kleinfunde Sven Hedins in Lou-lan» gave an excellent and exhaustive survey of the written documents, but the learned sinologue was not as well qualified to study the »Kleinfunde», and, strangely enough, the larger and very important finds, such as the wood-carvings etc. have not been studied at all, apart from the preliminary notes and illustrations furnished by Hedin in the popular narratives of his expeditions.

Consequently we felt it our duty to make arrangements for a monographical study of these materials. At first I entrusted this undertaking to my assistant Dr Nils Palmgren, who, however, after some preliminary study of the material and the extensive literature on the archaeology of Chinese Turkestan, declared himself unequal to the task of handling the intricate geographical, ethnological and linguistic problems closely connected with Sven Hedin's archaeological material.

Very fortunately, just at the time when Palmgren resigned from this work, two members of Dr. Hedin's large Sino-Swedish expedition returned to Stockholm and declared themselves willing to undertake the monographic description of the archaeological material from Hedin's early expeditions. Thus, Mr. Folke Bergman took upon himself the study of the objects from Lou-lan, and Dr. Gösta Montell undertook the preparation of a monograph on the terracottas from Yotkan and Dandān-Uiliq. At present there only remains a small group of gems and other minute objects, which will be described by Dr. Montell in a subsequent volume of our Bulletin.

Thanks to their participation in the Hedin expedition of 1927—33, these two gentlemen set about their task very well prepared. Mr. Bergman had travelled extensively in Chinese Turkestan and was acquainted with the whole Lop region. Dr. Montell, on the other hand, through his extensive study of Buddhistic iconography and his wide range of general ethnological knowledge was well fitted for his research-work. Our collaboration with them has been very pleasant, and I take this occasion to express to Mr. Bergman and Dr. Montell my sincere thanks for the excellent help they have given us.

When on his expedition of 1894—97 Sven Hedin visited Khotan and discovered the sites of Dandān-Uiliq and Kara-dung he was the first as a pioneer archaeologist in this field.

On his expedition of 1899—1903 Hedin made his most important archaeological discovery, the site of Lou-lan. It is certainly no exaggeration to say that it was principally Hedin's discoveries of these desert sites that inaugurated the splendid era of research-work in Chinese Turkestan distinguished by the names of Sir Aurel Stein, Grünwedel, von Le Coq, Pelliot and others, a period of unparalleled contributions to our knowledge of the past races, languages and arts of Central Asia.

Owing to the long delay in the publishing of Hedin's material the importance of his initial finds has become to some extent overshadowed by the epoch-making discoveries of those later expeditions which went out with archaeology as their sole aim. Under these circumstances the Museum of Far Eastern Antiquities has found it a most pleasant duty, with the very able help of Bergman and Montell, to do full justice to the material brought home from the early expeditions of Dr. Sven Hedin.

J. G. Andersson.

THE GOLDSMITH IN ANCIENT CHINA

BY

J. G. ANDERSSON

INTRODUCTION.

In our exhibition catalogue of 1933, presented to the members of the 13th International Congress on the History of Art which met in Stockholm in September of that year, we held the view, widely current at that time, that the earliest Chinese bronzes inlaid with silver and gold date back only to the Han dynasty.

The same view was still upheld in the paper ›The Exhibition of Early Chinese Bronzes‹ published in our sixth bulletin. However, during the summer of 1934, when that paper was already in the press, we received W. Ch. White's monograph ›Tombs of Old Lo-Yang‹, in which are described a large number of bronzes etc. stated to have been excavated at Chin Tsun, approximately ten English miles east of modern Lo-Yang. Among these bronzes there was a specimen no. 252, which, for reasons fully explained below, made it very probable that the technique with inlay in silver and gold was practised at least as early as during the flourishing of the style which we have named Huai and which, as we know now fairly certainly, covers the last three centuries of the Chou dynasty, the short-lived Ts'in and possibly the earliest part of the Han dynasty.

Having arrived at this conclusion, based upon the evidence furnished by White's specimen No. 252, we started surveying all the facts at our disposal and soon found abundant evidence pointing to the common use of inlay with precious metals in the reign of the Huai style. A brief postscript pointing out the necessity of redating some of our exhibition specimens was added to our publication in Bulletin 6, pages 133—136.

Since the publication of that volume we have continued our studies and, with the aid of foreign and Swedish friends, have been able to collect a considerable amount of data bearing not only upon the problem of the beginning of the gold- and silversmith's art in China but to some extent upon the problem of the Huai style in its relationship to the preceding Middle Chou and the succeeding Han style. These data we have tried to present here in a tentative analysis of these intricate problems. We are fully aware that many obscure points still remain to be elucidated. Especially is this the case with regard to the little explored transition from the Huai to the Han style.

In presenting this paper I feel it my pleasant duty to thank all those who have facilitated my work.

First of all, my respectful thanks are due to His Royal Highness the Crown Prince, who in 1933 initiated our researches into the chronology of early Chinese bronzes. Our exhibition on the occasion of the International Congress on the History of Art, which met here in Stockholm in that year, came into being upon the initiative of the Crown Prince, who himself outlined the chronological system that served to classify the bronzes exhibited.

When I wished to follow up and further investigate one detail of that chronological system, His Royal Highness not only put his inlaid bronzes at my entire disposal for renewed examination but kindly took an interested part in the study of the specimens here described. I am happy to acknowledge how much this exchange of views has helped me in settling some critical points which had remained for some time doubtful.

I should never have been able to prepare this paper had it not been for the ready and resourceful help of my friend professor Karlgren. All the dates which form the fixed points of my study and all other sinological information I owe to his helpfulness and his penetrating study of the Chinese antiquarian works.

The period during which this paper has been written has been a momentous one in the history of our Museum as it was during these same months that professor Karlgren prepared here his great research work *Yin and Chou in Chinese bronzes*. Our studies have run much on the same lines, and to me his research has been of special assistance by making me familiar with that little understood but large group of Chou bronzes which we named, in our conversations, »the scale group» and which has proved, thanks to Karlgren's analysis, to be the true representative of the Middle Chou period.

I am also deeply indebted to my friend Orvar Karlbeck, who has not only brought to our knowledge immense treasures of important bronzes, but furthermore has at all times placed his knowledge of provenance and other facts pertaining to these bronzes unreservedly at my disposal.

When I began this study, it soon became evident that photographic reproductions were not sufficient means for elucidating the intricate patterns of inlaid bronzes. The only adequate way of representing these designs was to prepare unfolded drawings, and for this work I was fortunate to find in Mrs. Ingrid Årfelt a most able collaborator, who has prepared all the drawings which form the main bulk of the illustrations to this paper and who with unfailing eye and keen interest has given the right clue to many an intricate question.

My thanks are also due to friends in distant lands. When it became evident to me that an inlaid vase in the University of Pennsylvania Museum was of paramount importance to my study, I approached Mr. Horace H. F. Jayne, the director of that museum, and with the utmost courtesy Mr. Jayne kindly entrusted to us this precious specimen for careful study.

When I made a similar appeal to Professor W. Ch. White, keeper of the East Asiatic Collection of the Royal Ontario Museum, to lend us another most impor-

tant specimen, I was informed that the regulations of the museum did not permit of such an arrangement. Instead therefore of sending the desired specimen, Professor White sent me the beautiful photograph reproduced in Pl. II and furthermore specially prepared for this paper the coloured drawing here reproduced as Pl. III.

One of the most important contributions to my research material I owe Herr Rittergutbesitzer H. G. Oeder, Priemern, Seehausen, Altmark, Germany. The specimen in question is the gilt bronze axe Pl. I: 1, which forms the only material evidence of gilding in Yin time that has so far passed through my hands. It gives me much pleasure here to express my thanks to Mr Oeder for lending me this important piece.

The British Museum and Professor C. G. Seligman of Oxford have kindly allowed me to reproduce the two Ko handles Pl. IX.

Mr. Anders Hellström, Mölndal, Göteborg, has kindly lent to me for study all his beautiful specimens of inlaid bronzes. Other exquisite specimens were put at my disposal by Mr. A. Lundgren and Mr. Th. Laurin.

The different items studied by me will be represented in the following brief chapters. There is only one factor that I wish to mention at once in the introduction.

As the Chinese goldsmith of ancient times had a marked predilection for inlay work, it is only natural that this paper should deal to a large extent with inlaid specimens and the problems associated with inlay of noble metals and precious stones.

Anybody who has studied Chinese bronzes will certainly be familiar with the fact — commonly met with among the belt buckles — that there are deep empty fossae separated by narrow sharp ridges in exactly the same patterns as similar bronzes actually inlaid with turquoise. No prolonged study is needed to make clear that these empty spaces were once certainly filled with some kind of inlay which has disappeared during the thousands of years of burial in the loess soil. Very likely the rich could afford to have his buckle inlaid with precious stones, whereas the man of modest means had to accept a less resistant filling made perhaps of turquoise or malachite powder mixed into some kind of organic paste.

However this may be, the fact remains that very numerous bronzes carry sunken designs which are now empty but which closely resemble the inlaid décor of other similar objects. Under these circumstances we are not bound to confine our examination to those pieces which actually carry an inlay. Those bronzes that have empty patterns characteristic of the inlay style speak the same language as those with the inlay still extant. Thus, the empty sunken décor of the upper part of the Piao bells constitutes fully reliable evidence of the earliest history of that conspicuous design, *the volute and the triangle*, which forms one of the main characteristics of the Huai style.

Finally, some words should be said as to the term Huai, which has been used throughout this paper for the art style that succeeded Middle Chou and preceded the Han style. It should first be emphasized that the term is used in a strictly chronological sense without being in any way limited to objects from the Huai Ho valley.

Furthermore it should be mentioned that attempts have been made to use in its place the term »period of the warring states«. Any such attempt will certainly only obscure the fact that we now know that the Huai style was flourishing long before the beginning of the period of the warring states and that it most probably outlasted that period by several decades of momentous importance in the history of China.

INLAY AND GILDING IN PRE-HUAI TIMES.

Until recently it was generally believed that the gold- and silversmith's art was unknown or at any rate very rarely practised in China until in the Han dynasty.

In the first bronze volume of the Eumorfopoulos catalogue Yetts makes reference to an inscription which he holds to be pre-Ts'in (1. c. pp. 26 and 31). Unfortunately it is at present impossible to form any reliable opinion as to the nature and age of that object.

During his present researches into the chronology of ancient Chinese bronzes professor Karlgren has kindly furnished me with more definite data on the silver-smith's art in pre-Huai time. According to his observations it is evident that silvering was already practised in Shi king time (prior to 600 B. C.) and that before that date metal linings of spear shafts were decorated with silver. The statement is inconclusive in so far that we cannot decide whether it is here a question of complete silvering or inlay in definite patterns.

More important is a statement made by Wu Yün to which Professor Karlgren has kindly called my attention. In his work *Liang lei hien i ch'i t'u shih* that author reproduces a Yu in clear Yin or at any rate Yin-Chou style with t'ao t'ieh and k'uei dragons as the two dominating decorative features. The vessel once belonged to the famous collector and expert in epigraphy Yüan Yüan, and the inscription is reproduced in Yüan Yüan's famous work *Chi ku chai chung ting i ch'i k'uan chih*.

Wu Yün says that the k'uei dragons are inlaid with gold. »The green patina resembles the surface of a melon«. »Both in shape and décor the vessel exhibits a quality which is rare even among Shang vessels«.

In the catalogue of the preliminary exhibition in Shanghai, in preparation for the London International Exhibition of Chinese Art, published in Shanghai 1935. there is mentioned a vessel of the Kuei group N:o 34, which is described as having a pattern inset with gold and silver, and it is dated as belonging to the period of »Spring and Autumn Annals« (722—481 B. C.).

Very fortunately there has come to my knowledge a bronze specimen which, as far as we can judge, has come from Anyang and is most likely of Yin age. My friend Professor Karlgren visited Germany in the spring of this year for the purpose of studying the rich treasures of early Chinese bronzes in German museums and private collections. When studying the exquisite collection belonging to Mr H. G. Oeder, he noticed a large bronze axe of a type which we have in recent years learnt to know as belonging to the bronzes of Anyang and as being most probably of Yin age.

The specimen is shown in our Pl. I: 1. It is a broad-bladed axe with the edge swung in a rather bold convex curve. The forepart of the blade is quite smooth with very little sign of corrosion. In fact, the steel-grey polished surface is left quite intact, with the exception of the edge, which is disfigured and thickened into heavy crusts of carbonate.

The rear part of the blade is ornamented in a combination of relief and sunken décor.

There are three relief elements:

1: The semicircular lateral aspect of what is probably the strongly geometrized mouth of the Yin monster which we know from »Exhibition» Pl. VII: 3, and Pl. XV.

2: The *en face* view of a pair of typical t'ao t'ieh eyes, and, above them,

3: Two very heavy kidney-shaped »eyebrows».

Surrounding these relief elements there is a geometrical sunken décor so deep that it is tempting to believe that it was once filled with some kind of inlay. The main elements of this sunken décor are T-shaped figures and a pair of spirals.

In the monster's mouth are two big curved figures, which are most likely the stylized fangs of the monster.

The part of the axe that was intended to receive the haft is exactly like the corresponding part of the Chinese dagger-axe Ko in its early representatives (comp. »Exhibition» Pl. VI). It carries two shoulders with narrow rectangular holes, and in the central part is a big round hole.

The hindmost part of the axe is decorated in a sunken pattern, the central part of which forms a pair of large t'ao t'ieh eyes.

The total length of the axe is 200 mm. and its maximum width 127 mm.

The striking feature of this specimen is its gilding which covers only certain parts. The smooth front portion of the blade is entirely devoid of gilding. At first sight the hindmost decorated part of the axe seemed also to lack gilding but a closer examination revealed small traces of gold here too, and its scarcity is probably due simply to the very strong corrosion of that part. The two central portions are rich in gilding. That part of the blade which is richly decorated shows fairly large areas with the gold film still preserved, and these areas occur at different levels, from the top of the t'ao ti'eh eyes and »eyebrows» down to the

level surrounding the fossae of the sunken décor. In the fossae themselves I have not been able to find traces of gold.

On the part also which was intended for the haft there are large areas still covered with gold, and at first sight this fact aroused my suspicions. On second thoughts, however, it became evident that a forger would hardly have committed what would have been from his point of view a blunder. Possibly the occurrence of gold upon this part is due simply to the fact that the axe may only have been intended for funerary use and was never hafted. In such a case it may possibly have been found expedient to gild the whole weapon except the smooth blade.

The existence of gilding upon what is probably an Anyang bronze is such a striking feature that I deemed it desirable to try to establish with certainty the authenticity of the gilding, all the more so as Mr Oeder, when with the utmost courtesy he put the precious piece at my disposal for study, asked me to make this crucial point clear as far as possible.

Consequently I have carefully examined all the spots where the gold is still preserved and find no reason whatsoever to doubt the authenticity of the piece including its gilding. The bronze is largely covered with greyish green verdigris, which is with absolute certainty genuine, and the noteworthy fact is that the gold is visible only where this crust of verdigris has fallen away, it being easy to remove a small particle of the verdigris to prove beyond doubt that the gold film lies underneath the verdigris. Upon the hafting part the patina is blackish and resembles soot; here too it is evident that gold appears where the sooty film has fallen away.

In order not to rely solely upon my own observations I have consulted two experts of widely differing experience. One is Mr. Gösta Bergman of Bergman Juvelerare A.-B., Stockholm, and the other the expert on bronze-casting Mr. Elmquist, who has so ably collaborated with us in all matters pertaining to bronze casting. Both these gentlemen, to whom I here express my sincere thanks, have carefully examined the axe and both are positive upon the point that the gilding is genuine and was most probably applied by means of fire gilding.

The next point to be settled is the age of this specimen. We know nothing about its provenance except by comparing it with similar axes brought to Europe by Mr O. Karlbeck.

One of them, now belonging to the Malmö Museum, is here reproduced as Pl. I: 2. It is very similar to the Oeder axe, the only essential difference in the décor being that on the Malmö specimen the fangs of the monster are more naturalistic than those of the Oeder piece.

Another axe of this group belongs to Mr A. Hellström. The décor of the two sides is different. One side is very like the two specimens described above. The other shows upon the part behind the haft the figure of a running bird.

Still another axe belongs to the Hellström collection. It differs more widely from the two preceding ones. The face of the monster is swung into big spirals, the

décor includes also the cicada pattern etc. Still, the general outline of the type is well maintained.

A giant specimen of this type of axes is represented in our photographic archives, F. 1815. The photograph was presented to us by Mr Hermann Arlt, of Breslau, with the statement that the specimen came from Anyang. To judge from the photo, which is said to be in natural size, the axe is 24 cm. long and 17 cm. wide. If I am not mistaken, it now belongs to the Henry Oppenheim collection, London. An interesting feature of this axe is that the mouth of the monster is executed in open-work with the two large fangs standing quite free.

It is already stated that the big axe just described came from Anyang. To every one familiar with the Yin period bronzes from the Anyang site it is apparent that all these five axes agree with the typical Anyang bronzes in general type, in décor and in patination, to such an extent that their provenance can hardly be doubted. With reference to the two specimens belonging to Mr Hellström and the one in the Malmö Museum, Mr Karlbeck told me that he bought them from a very reliable dealer who stated that they had come from Anyang.

There seems, then, to be little or no doubt that the Oeder axe proves the existence of gilding already in the Yin time.

WHITE'S VESSEL 252.

Professor W. Ch. White's book ›Tombs of Old Lo-yang› has met with considerable doubt and criticism, which in my opinion is not entirely well founded.

Collectors and connoisseurs who studied this volume became alarmed at the fact that he brought together, as originating from the same necropolis, not to say from the same tomb, objects which we have been taught to consider as belonging to widely differing periods.

In my opinion these critics are probably right to a certain limited extent. There are a very few specimens which I should feel inclined to date as pre-Huai, for instance the bronzes in Pl. XXV (N:o 053) and LXIX (N:o 166). Furthermore, there are objects which we are accustomed to date as post-Han, such as the bone comb Pl. LX (N:o 147) and the wood carvings Pl. CLIX (N:o 415—16). Doubts may also be expressed concerning the gold chain necklace with jade pendants Pl. CXXV (N:o 310).

When we consider how White got his specimens, it should not cause surprise that even such a skilled and careful collector might sometimes be induced to accept as belonging to the Old Lo-yang objects some specimens which were erroneously stated by the local dealers to have come from that site.

Personally I am fully convinced that the majority of things figured and described by White originated from the Old Lo-yang tombs, and I feel it only fair to give due credit to a collector who has undertaken to record to his best ability

what he had learnt about the clandestine diggings at the site named Old Lo-yang. The book is possibly a danger to inexperienced students, but, properly used as a record of numerous and important antiquities said to have come from this locality, it forms a valuable help to every critical research worker in this field. The decisive factor, when using a record of this kind, is to accept its statements not as facts but as indications.

Characteristic of the uncertainty prevailing in regard to the Old Lo-yang problems is the question of the provenance of the Piao bells, which are stated by White to have been excavated in the Old Lo-yang cemetery, whereas it is stated by several Chinese writers that they came from Kung Hsien, between Lo-yang and modern Cheng Chou.

When dealing with a material of such uncertain provenance as that described by White, the only absolutely safe way is to leave each object, regardless of provenance and association, to tell its own story. Very fortunately for our purpose there is a vessel described by White Pl. CXIII (N:o 252) which alone will help us a long way forward in the study upon which we are for the moment engaged.

This vessel White describes in the following way (See our Pl. II & III):

»Large square bronze bowl with indented rectangular decorative zones. The top rim, which was .6" wide, was inlaid with gold in geometrical patterns, with malachite or turquoise inlays separating the designs.

Below this was a recessed border, 1.25" in width, also inlaid in geometrical patterns with malachite at angular points. The metal inlay was copper and silver.

Below this border the remainder of the bowl was made up with indented recesses of rectangular form giving it a chequer-board appearance. The whole surface of these rectangular zones was covered with very fine spiral designs in low relief, with a background of line spirals and angles. The rim at the bottom was also decorated with this spiral design.

The sides gradually curved in from the wide-mouthed top to the smaller base, and the inside of the vessel corresponded in its diaper indentations with those on the outside of the vessel.

On each of the four sides were a pair of vertically placed bronze tenons, to which had been attached vertical handles, none of which now remained.

Inside the bottom rim, which was over an inch in depth, there still remained considerable of the burnt clay core, which would class this vessel as a *ming-ch'i* intended only for burial use.

The vessel was badly cracked through crystalization of the bronze, though it had not lost its original shape. The patina was of a dark rich brownish-green colour, and on the surface there were traces of silk cloth remains.

Fragments of an open-work *grille* of interlaced snakes were found with this object, which exactly fitted into the rim of the vessel. In the centre of this network of snakes was an opening, four inches square, which may have contained some sort of handle or decorative top.

This bowl was probably used as a wine container, or for water which was also a libation liquid, as the recesses on the inside of the vessel would militate against its usefulness as a food container.»

As this specimen was of such fundamental value for my present study I addressed a letter to Professor White asking him kindly to provide me with additional information on some important points. With the utmost courtesy he not only sent a very illuminating reply to my queries but also most generously provided me with the two important illustrations which are here reproduced with his kind permission, as Pl. II & III. I take this opportunity to express to Professor White my sincere thanks for the valuable help thus extended to me.¹

In his letter of June 3rd this year Professor White gives the following additional statement regarding the inlays on this vessel:

»We took the bronze bowl to one of the Professors of the staff of the Museum of Mineralogy, and he pronounced the stone inlays to be both malachite and turquoise. The gold inlay there is no mistaking, but what I surmised to be corroded silver has turned out to be copper, so that the whole design of that zone is of inlaid copper with no silver at all. When my description was written we had not attempted to clean the corroded surface of the vessel. Upon further examination of the malachite and turquoise inlays, we have come to the conclusion that only the turquoise belongs to the original inlays, and that the malachite which happened to be in the cavities is a natural encrustation due to corrosion by bronze.»

By the aid of White's original description and the additional material kindly furnished by him, we are in a position to form a very definite opinion about this vessel (Pl. II & III). It consists of five horizontal zones, the two uppermost forming the upper border, the two middle ones the body and the lowest the foot of the vessel. These three lower zones carry a common decoration in low relief described by White as »very fine spiral designs in low relief, with a background of line spirals and angles». This is the décor so characteristic of the Huai style. Its most conspicuous features are here present in abundance: the teeming hooks and dots rising over a background of line spirals, triangular, circular and circular in pairs. There can be no doubt that this vessel belongs to the Huai period. Still it carries upon the border zones a decoration which until recently was looked upon as not older than the Han time: geometric designs inlaid with semiprecious stones and metals.

The uppermost border zone is decorated with isosceles triangles bordered laterally by parallel lines. All these slender lines are inlaid with gold. Between the bases of the isosceles triangles are small transverse triangles inlaid with turquoise.

This design recalls very vividly the ornament upon the base of the round, richly inlaid bronze vase in the Eumorfopoulos collection, Bronze vol. I, pl. XXIV. This

¹ Thanks should also be extended to the Royal Ontario Museum for permission to use these illustrations. The coloured line drawing has been very able executed by Miss Dorothy Mac Donald of the staff of the museum.

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As this specimen was of such fundamental value for my present study I addressed a letter to Professor White asking him kindly to provide me with additional information on some important points. With the utmost courtesy he not only sent a very illuminating reply to my queries but also most generously provided me with the two important illustrations which are here reproduced with his kind permission, as Pl. II & III. I take this opportunity to express to Professor White my sincere thanks for the valuable help thus extended to me.¹

In his letter of June 3rd this year Professor White gives the following additional statement regarding the inlays on this vessel:

»We took the bronze bowl to one of the Professors of the staff of the Museum of Mineralogy, and he pronounced the stone inlays to be both malachite and turquoise. The gold inlay there is no mistaking, but what I surmised to be corroded silver has turned out to be copper, so that the whole design of that zone is of inlaid copper with no silver at all. When my description was written we had not attempted to clean the corroded surface of the vessel. Upon further examination of the malachite and turquoise inlays, we have come to the conclusion that only the turquoise belongs to the original inlays, and that the malachite which happened to be in the cavities is a natural encrustation due to corrosion by bronze.»

By the aid of White's original description and the additional material kindly furnished by him, we are in a position to form a very definite opinion about this vessel (Pl. II & III). It consists of five horizontal zones, the two uppermost forming the upper border, the two middle ones the body and the lowest the foot of the vessel. These three lower zones carry a common decoration in low relief described by White as »very fine spiral designs in low relief, with a background of line spirals and angles». This is the décor so characteristic of the Huai style. Its most conspicuous features are here present in abundance: the teeming hooks and dots rising over a background of line spirals, triangular, circular and circular in pairs. There can be no doubt that this vessel belongs to the Huai period. Still it carries upon the border zones a decoration which until recently was looked upon as not older than the Han time: geometric designs inlaid with semiprecious stones and metals.

The uppermost border zone is decorated with isosceles triangles bordered laterally by parallel lines. All these slender lines are inlaid with gold. Between the bases of the isosceles triangles are small transverse triangles inlaid with turquoise.

This design recalls very vividly the ornament upon the base of the round, richly inlaid bronze vase in the Eumorfopoulos collection, Bronze vol. I, pl. XXIV. This

¹ Thanks should also be extended to the Royal Ontario Museum for permission to use these illustrations. The coloured line drawing has been very able executed by Miss Dorothy Mac Donald of the staff of the museum.

in its turn is very similar to the design upon many large inlaid belt hooks, specially one in the Eumorfopoulos catalogue vol. II, Pl. XXXIX, B. 77. Compare also the drawing of our Pl. X: 2 a.

The lower border zone is decorated with a triangle pattern, the elements of which are simple representatives of *the volute with the triangle*. The inlay is in this case copper and turquoise.

The occurrence of the two decorative styles, the Huai low relief pattern and the geometrical inlay décor in one and the same vessel is undoubtedly, for our purpose, a fact of fundamental value, proving beyond doubt that the inlay designs were already flourishing in the Huai time. The similarity of the uppermost inlay design in vessel 252 with the inlay pattern of some large belt buckles offers a strong challenge for a reexamination of the question of the age of those large buckles.

SOME INLAID BRONZES FROM OLD LO-YANG.

Undoubtedly the chief reason for the perplexity caused by White's book on the Old Lo-yang finds is his association of richly inlaid bronzes with those presenting the typical Huai style. Until the appearance of this book it was generally believed that the metal inlay technique began only with the Han dynasty, and consequently White's book came as a challenge to that orthodox belief.

In the preceding chapter we have shown how one of White's finds, the square bowl N:o 252, combines the Huai style and the inlay technique, and this evidence alone seems quite sufficient to prove that we have to revise our ideas about the origins of the inlay with precious metals and stones. Personally I feel fully convinced that inlaid bronzes side by side with typical Huai-style specimens form the main bulk of the Old Lo-yang bronzes. In this belief I am very much strengthened by the specimens brought to Swedish collections by Mr. O. Karlbeck and stated by him to have come from the site described by White. In fact it seems that the main bulk of Old Lo-yang inlaid bronzes were secured by White for the Royal Ontario Museum of Archaeology but that many a fine specimen has found its way to museums and collectors in other parts of the world. In the following I will limit my study to specimens in Swedish hands. Still, it is well known that several wonderful specimens are in the hands of C. T. Loo and other collectors.

Several of the specimens here in question, as well as some pieces which are described as originating from Shou Chou, have already been reproduced from photographs in our paper ›The Exhibition of Early Chinese Bronzes‹, Bull. vol. 6, and in these cases I have to refer to those photographic reproductions, giving here only the unfolded pattern drawings.

WHEEL AXLE MOUNTINGS (Pl. IV). Previously described in ›Exhibition‹ p. 125 and Pl. XLV, fig. 2. The specimens belong to Mr. A. Hellström and Mr. A. Lundgren, each of whom owns one piece out of a pair.

Together with these two axle mountings went a pair of pole tops now also in the possession of Messrs Hellström and Lundgren. (Exhibition Pl. XLV, fig. 1). Upon very insufficient evidence it has been believed that these pole-top mountings formed some kind of outer fitting to the wheel naves, a suggestion which can hardly be upheld.

However, these two pairs of specimens have in common a technical feature which is rather rare among the inlaid bronzes, and which was not noticed by Dr N. Palmgren, the author of the description of these pieces in the Exhibition publication. Actually the inlay is in these cases executed in a very peculiar and complicated way, namely by placing side by side a number of narrow metal threads, half a mm. or slightly more wide, which by hammering have been pressed together to form a band or leaf of desired shape. In the case of very narrow gold or silver lines only two or possibly one single thread has been used. For broad bands several threads had to be used, and in the case of triangular fields the threads had to be laid in groups running in different directions. These threads had been so carefully hammered together that they look like a continuous metal plate in all parts of the piece where the decomposition of the copper has been slight. But wherever heavy decomposition has taken place, the copper carbonate has found its way through the latent fissures between the threads, and here the composite formation of the metal inlay surfaces is clearly visible.

The inlay is in silver and gold, the latter metal being more profusely used to form broad curved and spiral figures within lozenge and zigzag fields. The silver inlay is given the shape of *the volute with the triangle*, which here appears in several variants.

WHEEL AXLE MOUNTINGS (Pl. V). Two specimens belonging to the Museum of Far Eastern Antiquities (K 11.276: 148—149). In shape they very closely resemble the pieces described above and like them carry an iron peg with a bronze animal head.

In this case the inlay is in silver only and the patterns simply consist of zigzag bands in the central portion, where there is also an indication of *the volute with the triangle*. For the rest the design is mostly double volutes combined with diagonal lines.

POLE TOP MOUNTINGS (Pl. VI: 1). Owners Messrs Hellström and Lundgren. Photographic reproduction in »Exhibition» Pl. XLV. Some notes on these specimens have already been given above in connection with the wheel mounting Pl. IV. The inlay is in both gold and silver. The design is laid out in triangular and lozenge-shaped, partly rounded figures, and its elements consist of curved bands, spirals and volutes.

SNAKE HEAD (Pl. VI: 3). Owner H. R. H. The Crown Prince. Photographic figure in »Exhibition» Pl. XLV, fig. 4. As this photograph gives only a very

inadequate idea of the pattern, an unrolled drawing is here given showing the characteristic inlay in gold and silver.

POLE MOUNTING (Pl. XV:2). Belonging to the Museum of Far Eastern Antiquities (K 11.276:127). This specimen was probably used as an end mounting for the carrying pole of a sedan chair or some similar purpose. At any rate, the rectangular socket and the position of the bird's head proves that the pole to which it was attached was held horizontally.

Our specimen has a geometrical décor of straight diagonal bands combined with volutes. This design forms furrows (black in the drawing) which were evidently once filled with some kind of inlay.

In Mr. A. Hellström's collection there are a couple of pieces exactly like ours but with silver inlay where our specimen shows only empty furrows. This inlay is produced by placing side by side numerous slender silver threads which have subsequently been hammered together.

An interesting feature of the design on this bronze is the double volutes, two pairs of which are combined by means of a broad diagonal band. This is the sole décor on the top side, and two such groups are also seen upon the lateral surface close to the mouth of the socket. This feature is of interest as it links up this piece with the axle mounting shown in Pl. V.

INLAID BRONZES FROM SHOU CHOU.

Shou Chou, on the Huai river, is the place from which has come in recent years an ever-increasing outflow of graceful and delicately shaped bronzes culminating in the large find of the summer of 1933, a treasure which has so far been only very inadequately described.

Already as early as 1920 Mr. O. Karlbeck had made a very fine collection of these bronzes, now belonging to the Hallwyl museum. Later collections made by him were acquired by our museum, and it is because of these exquisite specimens that we have accepted the geographical term Huai for bronzes of this period.

The vast majority of the Shou Chou bronzes have the typical Huai low relief décor, but a small number among them are inlaid and form a very interesting link connecting the typical Huai low relief bronzes with those with metal inlay. Some selected specimens of these Shou Chou bronzes will be briefly described here.

KO HANDLE (Pl. VII, K 12007). As an introduction to the study of a group of Ko handles with inlay I propose to illustrate and describe here a specimen which only recently came into the possession of the Museum of Far Eastern Antiquities, thanks to Mr. Karlbeck, and which on account of its elegant shape, the exquisite perfection of the décor and the pleasing patina is one of the choicest bronzes ever seen.

The lower half, with entirely smooth surface, is octagonal in cross section with a hoof-like lower end.

The upper half is smooth at the top, but its lower part has a rich decoration in the shape of a bird with a very tiny leg ending in two strong toes.

The head of the bird is richly decorated with spirals and a ring of dots round the eye. The throat is covered with short scales, as is also the upper part of the leg. The tail is decorated with more elongate scales of the type known from the Middle Chou group of bronzes. At the base of the tail is a spiral with dots. The wing consists of two large plumes, at the base of which is a heart-shaped figure with three spirals. The circumference of this figure, including two of the spirals, is decorated with a continuous row of dots.

The smooth parts of this charming little bronze show a perfect polish, very pleasant to the touch. The whole surface makes a wonderful display of colours, from light grey through deep sea-green to the vivid blue of azurite.

KO HANDLE (Pl. VIII: 2). This specimen, which belongs to Mr. A. Hellström, is photographically reproduced in ›Exhibition› Pl. XXXVI fig. 3. The unrolled drawing here given shows the whole pattern much more clearly, including the fact that the animal with the bird-like head seems to have both fore and hind feet. For the rest it is covered with volutes and spirals.

The top of this handle carries a sunken décor of a purely geometrical kind, such as we know from some richly inlaid vessels and large belt hooks. Behind the neck of the ›bird› is a narrow zone of double *volute and triangle pattern*.

KO HANDLE (Pl. VIII: 1) belonging to Mr. A. Hellström. The picture is an unfolded representation of the design. Black are those sunken parts that were apparently intended for some kind of inlay.

Near the top is a belt with a pattern of diagonal lines ending in volutes. The central figure seems to be a bird, to judge from the curved beak. The wing feathers and the tail have ›scales›.

KO HANDLE (Pl. IX: 2). Specimen belonging to Professor C. G. Seligman and here published by his kind permission.

This Ko handle is very much like the one reproduced in ›Exhibition› Pl. XXXVI, fig. 3. It is 170 mm. in length. The socket is oval in section.

The bird is here long-necked, as in our plate VII. The throat is scale-covered. There are small spirals round the eye and large ones upon the bird's body.

On the top part, above the bird, there is a pattern of incised spirals somewhat of the lei-wen type.

Below the bird there are incised spiral designs in heart-shaped groups. Most probably these incised designs were once filled with some kind of inlay.

KO HANDLE (Pl. IX: 1). Published by courtesy of the British Museum, which is the owner of this specimen.

The piece is very like the two just described, but the bird is short-necked and poorly decorated.

At the top are two zones with a *volute and triangle pattern*, which was most likely once filled with some inlay.

Length of specimen 158 mm.

KO HANDLE (Pl. X: 1). This specimen, which belongs to Mr. Th. Laurin, was reproduced in ›Exhibition› Pl. XLVI fig. 1, and the corresponding unfolded pattern-drawing is given here.

The animal here is not a bird but — to judge from the outline — the head is that of a quadruped, the body of which, however, is entirely lost in the geometrical design, which consists of complicated curved and spiral lines, in the middle of which a strongly stylized animal head may be traced.

KO HANDLE (Pl. IX: 3, XI). Belonging to the Museum of Far Eastern Antiquities.

Among the many valuable specimens brought to our museum by Mr. O. Karlbeck is a very strongly corroded Ko handle. Mr. Karlbeck states that it probably came from Old Lo-yang, but as a matter of convenience I have inserted it here, as it shows strong affinity to the preceding piece, which according to Karlbeck probably came from Shou Chou.

The piece was so thoroughly corroded that it was at first considered to be of but slight value. However, when it was given to our very able lady artist, Mrs Ingrid Årfelt, she set herself to draw it patiently and carefully from two side views, and from the front, and finally developed the three drawings shown in Pl. XI, which give a fairly clear conception of the design, though there are still considerable doubts about many details, owing to the deeply corroded state of this specimen. The inlay is gold and silver, the latter metal being predominant. The décor is mainly geometrical, consisting of straight and curved bands, spirals and curved T-shaped figures. Furthermore there are in the inlay two animal heads, one upon each of the broad sides, looking forward. A t'ao t'ieh-like head is also seen behind and possibly another upon the narrow front side below the big projecting body, which, to judge from other similar, less corroded Ko handles, is probably the head of a four-legged animal executed in high relief (cf. ›Exhibition› Pl. XLVI, fig. 1).

HANDLE MOUNTING (Pl. XII: 2, XIII: 1). A beautiful piece belonging to Mr. Th. Laurin. In the ›Exhibition› volume it was rather inadequately represented by a photograph, which moreover was printed upside down (Pl. XLVI, fig. 5). Here is reproduced an unrolled drawing, which very clearly shows the whole design of silver inlay.

The design is divided by the protruding ring into three fields, and it may be convenient to begin with the one at the bottom, which is at the same time the highest of the three. The main motif is zoomorphic but strongly stylized. We can recognize the outline of a quadruped with long snout and the horns of an ibex. The body is slung over the head, and we can trace fore and hind legs. But for the rest the animal is quite distorted, with featherlike and hairlike appendages.

The topmost zone recalls in its *décor* many features of the lowest one. The animal body here reappears with the fore and hind legs, but the head is hardly recognizable.

On this bronze, as well as on the Ko-handle Pl. X: 1, the inlay was done by silver plates being cut into the desired shape and hammered into the corresponding sunken areas. Both these bronzes are strongly corroded, and the silver plate lies above the surface of the bronze and is partly loosened from it.

HANDLE MOUNTING (Pl. XII: 1, XIII: 2). A most exquisite piece belonging to the Malmö Museum.

As in the case of the preceding handle, the inlay is divided into three horizontal zones.

The topmost one carries two serpent-dragons. The dragon bodies have appendages which may be degenerate legs. Further, narrow silver lines run along the dragon bodies and end in volutes.

The broad zone at the bottom contains a pair of similar dragons richly adorned with volute-lines.

The median zone contains much the same geometrical *décor* as the corresponding zone of Pl. XIII: 1.

BELT HOOK in the shape of a bird with large bill (Pl. VI: 2, K. 10 599: 471). It belongs to the Museum of Far Eastern Antiquities. This neat little belt hook with a steel-grey patina was upon closer examination found to carry a silver coating with spirals and volutes with triangles.

BRONZE FITTING (Pl. XIV: 4, XVIII: 3). Museum of Far Eastern Antiquities K. 11.000: 408.

A small bronze fitting, its use unknown, consisting of an upper tubular part with hoof-shaped cross-section and a lower part in rich open-work design.

The upper tubular part contains a sunken *décor* apparently intended for inlay of some kind. This design is strictly geometrical.

The lower part is beautiful open-work in typical Huai style consisting of a big serpent-dragon carrying the tube upon its head and upon a curl of the body. This dragon is decorated with scales, hooks and spirals. At the base are two snake heads of a well known Huai type. For comparison we have here reproduced in Pl. XIV: 5 another piece (K. 11.000: 407), closely related to the one just described but differing in some minor details, for instance the pose of the dragon.

BRONZE FITTING (Pl. XVIII: 4). Owned by China Bohlken, Berlin.

A piece of the same type as the preceding one. The only difference is that the geometrical design upon the tube contains in the middle a zoomorphic element with a big eye.

The lower part consists of two symmetrically arranged animals in open-work and decorated with curved lines, zigzag lines and spirals, the whole executed in true Huai style.

SEMIGLOBULAR BRONZE OBJECT (Pl. XIV: 2, XV: 1). Museum of Far Eastern Antiquities K. 10.773: 3.

Object of unknown use (sleeve weight?) forming the larger part of a globe but truncated below. At the top is a loop holding a tiny ring. There is in our possession a second specimen with a slightly different décor. It is hollow, forming in fact merely a tiny shell, but the specimen here described is filled with some kind of substance and rather heavy. Pl. XV: 1 affords a very clear unfolded representation of the design.

At top and bottom are bands with a geometrical design consisting of thorny volutes arranged in pairs. The décor of the main field is composed of four elements:

- 1: Comma-like figures with the apex turned upwards and occurring in pairs.
- 2: Slender double axe-like figures strongly recalling the figures often seen upon painted chalcolithic ceramics. These double axe figures are placed both vertically and horizontally and separate the animal figures.
- 3: In the upper part are seven birds, very strongly stylized and with filament appendages.
- 4: Below there are seven quadrupeds with still more elaborate threadlike appendages.

All these designs are sunken, with rough bottom, apparently for the purpose of applying some inlay substance.

There is a slight similarity between the sunken décor of this object and that of Pl. XVIII: 4, as the zoomorphic elements offer a parallel. Far more remarkable is the association of this specimen with a group of bronze vessels reproduced by Umehara in *Shina-Kodō-Seikwa*, part I vol. 3.

Closest in similarity of design is the wine pot N:o 208 belonging to the Buckingham Collection, The Art Institute of Chicago. It is inlaid, probably with silver, in a combined animal and geometrical design. The geometrical design includes the t'ao t'ieh and the double axe, the latter arranged both vertically and horizontally. Among the animals there are the bird and the species of quadruped known from our »sleeve weight», and in addition others, as for instance the deer. On the whole, the animals on the Chicago vase are more naturalistically elaborate.

Another vessel with a closely related décor is the globular covered Ting belonging to the Metropolitan Museum of Art, New York, and numbered 209 in Umehara's

work. Here are the same animal figures and a geometrical décor, including the »double axes».

A very interesting species of this family is the bronze vase with inlaid animal décor belonging to the Far Eastern section of the Staatlichen Museen, Berlin, and reproduced by Umehara N:o 207. This vessel has been described much earlier by Kümmel in *Ostasiatische Zeitschrift* 1918—1919, and we learn from him, among other things, that the inlay is in »einer hellen Kupferlegierung».

The inlaid ornament depicts more or less fabulous animals and human figures in vivid motion. The vessel bears an inscription which has been commented upon by Kuo Mo-jo in *Ku tai ming k'o huei k'ao hsü pien*, and Professor Karlgren has kindly given me his approval of the opinion expressed by Kuo. The essential feature of this commentary is the statement that the inscription refers to a State named Hsien-yü or Chung-shan, which was destroyed in 299 B. C., which is consequently the latest date that can be attributed to this bronze vessel.

THE KU-WEI-TSUN LACQUER.

In the study upon which we have at present embarked it is necessary to keep in mind that the objects of art with which we are occupied are the children not only of style but of material and technique as well. The style is the short-lived expression of the artistic mind of a certain time. Material and technique are much longer-lived. In the course of the evolution of culture new materials and new techniques have from time to time been added to the existing resources of mankind, but these innovations, when once found to be useful, have mostly remained in active service for ever or at any rate they have outlived many successive styles.

However, the interaction between these three factors, material, technique and style have been very varied and sometimes extremely complicated.

Material is the basic one of the three. Take for instance stone, one of the earliest materials in the human hand for making tools, weapons and decorative objects. Stone imperatively demanded its own specific techniques, first chipping and flaking, then hammering and grinding. But, when copper first came into use, the new smart types of arms made possible by the new material were soon copied in the old medium, the stone, and such strange products as the wonderfully well made boat-shaped battle-axes of the final epoch of the Nordic Neolithic Age came into being thanks to cultural influences from more southern lands where the earliest common metal, copper, was already in full use.

Just as copper was probably the earliest utilized common metal, so gold was the earliest used of the precious metals. Its rarity combined with the desire even of people of limited means to partake in its beauty developed the goldsmith's art with its subdivisions, such as gilding and inlay, in which the cheap alloy bronze was used as carrier of the noble metal gold.

It seems beyond doubt that, at the beginning of the Huai-style period with its rich development of new designs, there arose a special style to suit the requirements of the inlay technique. When we look at such gorgeously decorated bronzes as the Philadelphia vase Pl. XIX, the handle mountings Pl. XI—XIII and many of the large richly inlaid belt-hooks, it cannot be doubted that these extremely complicated and extravagantly geometrical patterns were designed to fit in with the requirements of inlay-work. Elements were borrowed from the typical low relief Huai style and from other sources, but as a whole the inlay specimens of the time form a well defined stylistic group of their own.

When once this gorgeous style of the inlaid bronzes was fully developed, it began to make its influence felt upon other materials and radically different techniques. For instance, it seems quite probable that the inlay influences are traceable upon the low relief pattern of certain late Huai mirrors. The painted mortuary urns of the Han dynasty exhibit patterns which show very close relationship to the designs of the inlaid bronzes, and even such a radically different material as textiles has occasionally received such influences, as exhibited, for instance, in the Noin Ula silk embroidery reproduced in Kümmel: *Chinesische Kunst*, Pl. 59.

Most interesting of all is the interaction between inlay and lacquer work. A comparison between two such standard works as Rostovtzeff: *Inlaid bronzes of the Han dynasty*, and Harada: *Lo-lang*, furnishes complete evidence of the interaction in Han time between inlay and lacquer design.

Whereas, thanks mainly to the careful and systematic excavations carried out in Corea by Japanese archæologists, we are well acquainted with an abundance of decorated Han lacquer, so far we know practically nothing of Huai time lacquer. The two wooden vases with lacquer cover reproduced in White's *Old Lo-yang* Pl. CXVI and CXVII are rather indifferent, as they have no décor, and the bone fragment with lacquer inlay showing the highly interesting figure of the fore-part of a horse should be regarded as bone carving with lacquer inlay rather than as lacquer work.

A first and very interesting contribution to our knowledge of Huai time lacquer was given by O. Karlbeck in an article *A Honan grave find* published in our second Bulletin P. 201—204.

At Ku-wei-tsun in Huei Hsien, N. Honan, there was discovered in 1929 a tomb from which Karlbeck secured for this museum three large wooden beams and a number of exceptionally large bronze masks, the latter having a very powerful Huai décor. The wooden beams, onto which the bronze masks fit, are covered with lacquer, upon which a geometrical design is painted in three colours. Karlbeck gives the following description of this painted design (l. c. p. 202):

»The vertical side is embellished with a design repeated 16 times. The design is composed of a rectangular frame and a triangle placed on top of it. In each rectangle we find, projecting from the horizontal sides, a hook-shaped figure and

a figure which resembles the letter F. From each of the three sides forming the triangle a hook-shaped figure projects. The ornaments, which were painted white, are outlined in black. The rest of the surface is painted red. This applies not only to the decorated side but to the other lacquered sides as well.»

When in 1931 Mr. C. T. Loo visited this museum and exhibited here some of his art treasures, he brought with him some very remarkable decorated lacquer fragments and told us that he knew that they came from the tomb at Ku-wei-tsun. As we already possessed here the more important finds from this locality, Mr Loo most generously donated to us these very interesting lacquer fragments, which I now propose to describe.

These fragments are shown in natural size in our Pl. XVI.

The design is painted with vermillion red directly upon the black lacquer. No other pigment was used in this case.

If we study the different designs on these bands of lacquer we soon note that there are three types of pattern.

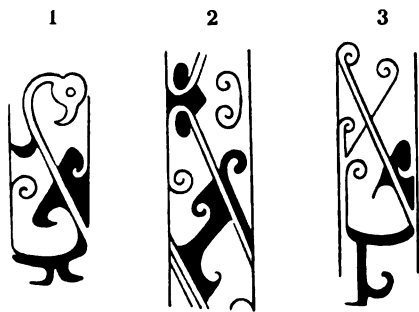


Fig. 1. Designs of Ku-wei-tsun lacquer.

One (marked 1, see also text-figure 1) consists of strongly stylized birds placed lengthwise and turning their heads alternately to right and left. We recognize very distinctly the heads with big eye and long curved beak. The neck with an upturned hook upon its back continues diagonally down to the base of the body with its two curved feet. Halfway down the diagonal is a queer curved double figure which may indicate the very strongly stylized wings.

Another type of design (here named 3) is shown in the bottom band and also in the second one from the bottom. It can best be described by comparing it with pattern 1. The diagonal is there and so also is the base of the body. Even the wings of the bird are recognizable, but here the similarity with pattern 1 ends. Instead of the legs there is a single big hook and instead of the head three small volutes. A lower volute opposing the wings is a feature common to types 1 and 3.

Pattern 2, occurring in the middle bands of our plate, is so geometrized that the bird is no longer recognizable. The diagonals are there and so also are the wavy wings, but for the rest there are only single and double volutes.

It is easy to prove that these designs belong to the Huai-style period. To begin with pattern 2, the most geometrized of the three, we soon find parallels among the inlaid bronzes here described. Thus, for instance, when we examine the middle bands of the two handle mountings in Pl. XIII, we recognize the same diagonals and the same abundance of volutes, the whole general arrangement being very much the same (see also textfig. 7). A very similar design is met with in the upper band of the Ko handle mounting in Pl. IX: 1. Also the wheel axle mounting in plate V exhibits the same combination of diagonals and volutes, which seems to be a rather common feature of the inlaid Huai bronzes.

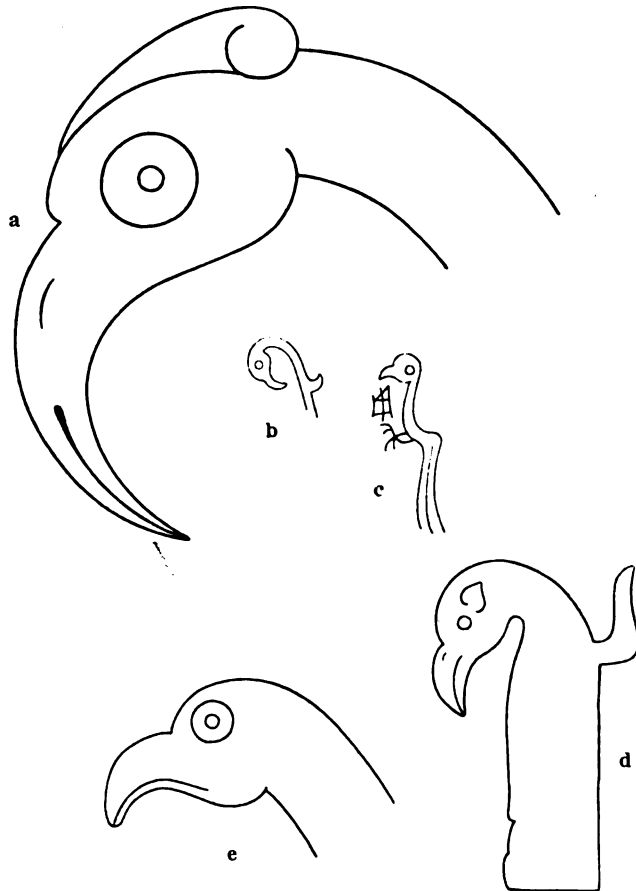


Fig. 2. Huai birds from different bronzes.

Turning next to pattern 3, we find, in addition to the diagonals with volutes, *the volute with the triangle*.

Pattern 1 with its bird with the hooked back is a very significant Huai feature. Figure 2 b in the text shows a specimen of our lacquer bird. d of the figure is a most exquisite small bronze, K. 10. 726 in this museum (Pl. IX: 4), with a beauti-

ful and typical Huai relief décor. Here the hook upon the back is very strongly developed and may have served some practical purpose.

The bird's head with the big eye and the long curved beak is very well represented upon a bridle cheek-piece, a of our figure (K. 4078).

Fig. 2 e, of much the same type, is borrowed from our plate XV: 2, a bronze from Old Lo-yang.

Most interesting of all is our c, an inscription in 'bird script' upon a sword from the late Chou, or in other words the Huai-style period. The very significant feature is that the script is in gold inlay, so here we meet a further case of gold inlay in Huai time. This item, to which Professor Karlgren has kindly called my attention, is from Lo Chen-yü's work *Cheng sung t'ang tsi ku i wen* vol. 12, sheet 19, b.

It now only remains to discuss the shape of the vessel or vessels to which these lacquer fragments once belonged. Apparently there is always the possibility that fragments from different vessels have been collected and brought together in one group. But the lacquer as well as the red pigment are so absolutely the same upon all the fragments, and furthermore there is, as we have seen, such close relationship between the three patterns that it seems by far the most likely that all these fragments belonged to *one* vessel.

It should be noted that all slips with pattern 1 are gently curved, whereas those with pattern 3 are straight. At first sight it looks as if the slips with pattern 2 are also bent, but a closer examination will prove that such was probably not the case. The fragments in the third row from the top are arranged in a curve conforming to the two topmost ones, but each single fragment shows a straight, although irregular contour.

The double central group (fourth from the top) is very important for the purpose of our interpretation. In the central part (h of the pl.) there is, above, a slip of pattern 2 with an upper rounded contour. At first I thought that this band was bent, but then I noticed that it is really attached below to a slip of pattern 3. The most likely explanation of this detail is that it covered the lower side of a handle such as those upon the 'decorated oval lacquered bowls with gilt bronze ears' (see *Lo-Lang* Pl. XLVIII—LII, in which these 'ears' are decorated on their under side).

It is evident that the lacquer strips with straight contour must have belonged to a vertical cylindrical surface, whereas those bent to form part of a circle must have been attached to a flat circular disc. Because of the 'ears' just mentioned we have also considered the possibility of the vessel's being not circular but oval. There is however no such difference in the bend of these bands as would justify such an idea, and for that reason we have arrived at the conclusion that the vessel was circular when seen from above.

The broad undecorated red fields following below pattern 3 most likely covered the nethermost part of the side of the vessel. It seems quite likely that this un-

decorated red part sloped inwards in much the same way as shown in Pl. LXIII, LXVII, LXX, LXXIII etc. of the Lo-Lang monograph.

There are two alternatives for applying the bent design 1. One is that it decorated the inside of the bottom. The second and more likely alternative is that it belonged to a cover, decorated at its margin. In this case the diameter may have been about 28 cm.

As to the height of the box, we can only judge from the bottom part of Pl. VII that it was more than 7 cm.

From these considerations we have attempted to make a reconstruction of this lacquered wooden box, an attempt which is naturally in more than one respect somewhat dubious.

THE HSIN CHENG GOLD SHEETS.

One of the largest discoveries of Huai bronzes ever made was the Hsin Cheng find made in 1923 at Hsin Cheng Hsien in Honan, S. of Cheng Chou. The bronzes, which are kept in a building in the provincial capital Kaifeng, have been described in three Chinese works, namely:

Hsin Cheng ch'u t'u ku ch'i t'u chih

Hsin Cheng ku ch'i t'u lu, and

Ch'uan ku pie lu by Lo Chen-yü.

Without entering upon any detailed analysis of this immense body of material comprising bronze vessels, bells and other objects, I should like to explain the opinion I formed after studying the plates in the three above-named antiquarians' works. There seems in this collection to be nothing of the type which we have been accustomed to regard as Han. In this respect the Hsin Cheng bronzes give an impression of higher antiquity than the Old Lo-yang material as described by White. There is of course always the possibility that Han pieces have by action of the dealers slipped in among the genuine Old Lo-yang specimens, but it should not be overlooked that there may possibly have been an actual difference between the two sites, in that the Old Lo-yang material exhibits beginnings of what will later be Han, whereas such late types are entirely absent in Hsin Cheng. Indeed, I feel inclined to believe that the Hsin Cheng material marks the very beginning of the Huai style or rather perhaps the transition from Middle Chou to Huai.

As we have learnt from Professor Karlgren's recent researches, there is in the Middle Chou an overwhelming predominance of the style which we have named in our conversations the ›scale style›.

It is highly noteworthy that in the Hsin Cheng material there is a very strong component of the ›scale group›; in fact the ›scale› specimens and the Huai style specimens appear to be about equal in number. For this reason I consider it probable that the Hsin Cheng find marks the transition from the ›scale style› to the Huai style.

Among the hundred and more objects from Hsin Cheng only two bear inscriptions. One of them is too weathered and obscured to be legible.

On the second one Professor Karlgren has kindly given me the following note: »The vessel is a rectangular trough bearing a brief inscription, the meaning of which is: *trough belonging to prince Ying-tz'ü*.

Wang Kuo-wei identifies this name with a premier Ying-tz'u in the State of Ch'u. In order to explain the presence of this vessel in the State of Cheng he refers to the great battle in 575 B. C., when Ch'u assisted Cheng, and Ying-tz'ü was one of the three leaders of that group of armies. Tsin, the attacking force, was victorious, and during the night following upon the battle the Ch'u army fled leaving behind, among other things, this inscribed vessel.

Kuo Mo-jo has another explanation. He believes that Ying-tz'ü refers to a prince of Cheng. Actually there was a Cheng prince whose name was written sometimes Ying-tz'ü, sometimes only Ying. This prince was murdered in 680 B. C.»

The evidence furnished by these two interpretations is far from convincing, but the typological deduction given above seems rather to support the dating of these bronzes in the seventh or sixth century B. C.

Mr. C. W. Bishop in his note on the Hsin Cheng find (The Bronzes of Hsin Cheng Hsien, Smithsonian Report for 1926, pp. 457-468) says (l. c. p. 464):

»In some instances traces of former gilding are still visible, and there is reason to believe that the workmen made away with a really very large amount of sheet gold, stripped from the bronze surfaces.»

Very fortunately at least two pieces of gold sheet are known. Soon after the Hsin Cheng discovery was announced in September 1923, Dr. V. K. Ting sent a member of the staff of the Geological Survey down to Hsin Cheng to make local inquiries. This young geologist secured for the museum of the Geological Survey in Peking a beautiful round gold sheet with a pattern hammered into the gold. Thanks to the courtesy of Dr. Wong Wen-hao I was given a photograph of this sheet, which is now No F. 720 a of the photographic archives of this museum.

In the spring of 1927, when visiting Mr. Lo Chen-yü at his Tientsin residence, I bought from him a gold sheet quite identical, not only in size but in pattern as well, with the specimen belonging to the Geological Survey. This piece is now number K. 10.490: 1 in this museum. (Pl. XVII and XVIII: 1).

In addition to the large round complete gold sheet, I also bought from Mr. Lo Chen-yü a small fragment with the same pattern but differing from the two large sheets (ours and that of the Geological Survey museum, Peiping) in having a straight border (K. 10490: 5). This is important as it indicates the existence of gold sheets of rectangular shape in addition to the known circular ones.

Mr. Lo Chen-yü expressly stated that the gold sheets here mentioned came from Hsin Cheng. As the Geological Survey specimen was actually bought on the spot a short time after the find was made, we may safely consider these gold sheets to be genuine Hsin Cheng specimens.

The circular gold sheet in the possession of this museum is 170 mm. in diam. Its border to a width of 3—4 mm. is bent backwards in order to hold a bronze plate about one mm. thick, of which small traces, now entirely turned into malachite, are still seen held by the doubled border.

Apart from a smooth border zone, 13 mm. wide, the sheet is entirely covered with an impressed pattern. The decorated surface is divided by ›string‹ lines into three concentric zones (Pl. XVIII: 1). Next to the smooth border is a narrow zone, 7 mm. wide, with a zigzag pattern recalling the dentated décor of the border zone of a group of Chinese bronze mirrors.

The next zone, 30 mm. wide, is the most interesting one. It is decorated with a pattern of interlaced serpent-dragons with ›string‹ design upon the bodies and with the heads turned in profile on the outer side and alternately en face and in profile on the inner circumference.

The central field, 65 mm. in diam., is covered with the same kind of serpent bodies, but here no distinct heads are in evidence.

It should be noted that several of the Hsin Cheng vessels are covered with a very similar pattern of interlaced serpent-dragons of the type so characteristic of the Huai style. Consequently it has been suggested that the gold sheets covered some bronze vessel or possibly a bronze mirror. The second alternative may at once be disposed of, as there is no opening or prominence to correspond to the central knob of a mirror.

In view of the observations made upon the reverse of our gold sheet I am more inclined to believe that the sheets were simply mounted upon a bronze plate, only about a millimetre thick at the border and possibly having the same design as the one impressed into the gold sheet. This bronze plate may only have served as a support for the thin and delicate gold sheet.

For comparison we reproduce in Pl. XVIII: 2 a small bronze object belonging to Mr. Hellström. The socketed part is continued into a bird's head holding in the mouth an octagonal smooth pin. The socketed part is decorated with two double meanders, each of them consisting of two serpent-dragon heads with common stringed body. This design strongly recalls the décor of the Hsin Cheng gold sheet. The neck of the bird is covered with typical ›scales‹.

THE PHILADELPHIA MUSEUM VESSEL.

In his important work *Shina-Kodō-Seikwa* vol. I: 3 Umehara publishes illustrations of a foursided bronze vase belonging to the University of Pennsylvania Museum, Philadelphia.

The vessel here in question bears number 213 in Umehara's catalogue and is described by him as follows: ›Quadrangular wine pot, Fang, with animal ornament and inlaid stone‹. Umehara's figures show very clearly two important features of this bronze:

1: that it is inlaid with some precious stone in a geometrical pattern which is very characteristic and recalls the pattern of many belt-buckles inlaid with gold, silver and precious stones.

2: that it bears at the base a long inscription which seems to offer the possibility of dating the specimen.

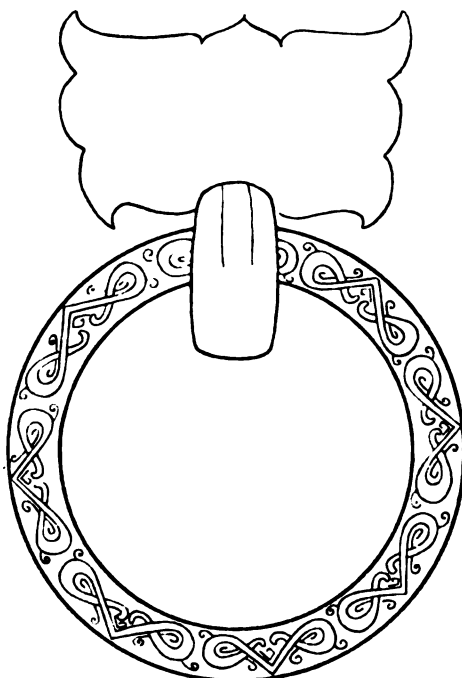


Fig. 3. Décor of the ring of the Philadelphia Museum vase.

This vessel is of such special interest that I approached Mr. Horace H. F. Jayne, Director of the University of Pennsylvania Museum, with a respectful request that the precious specimen be lent to this museum in order to enable us to undertake a more careful examination of it. With the utmost courtesy Director Jayne complied with our request, and in the spring of this year we were allowed to keep this remarkable bronze vessel here for some time and study it.

As stated by Umehara, the bronze vase is of the type named Fang, a vase oval in shape when seen from the side, with a slightly flaring mouth and a straight basal part, 40 mm. high (Pl. XIX). The total height of the vessel is 375 mm. When viewed from above the vessel is quadrangular in outline, the mouth being 104 mm. inside, the widest part 210 mm. and the base 122 mm.

On two sides are masks of the Huai type with moveable rings, one of which is smooth and probably a late substitute, the other contains a neatly incised pattern as shown in fig. 3 in the text.

The inscription of this vessel, already reproduced by Umehara, is here shown in fig. 4. It covers three sides of the smooth zone between the main body and the vertical foot. There seems to have been in all 29 characters, of which 1—11 are upon the first side, 12—20 upon the second and 21—29 upon the third side. A

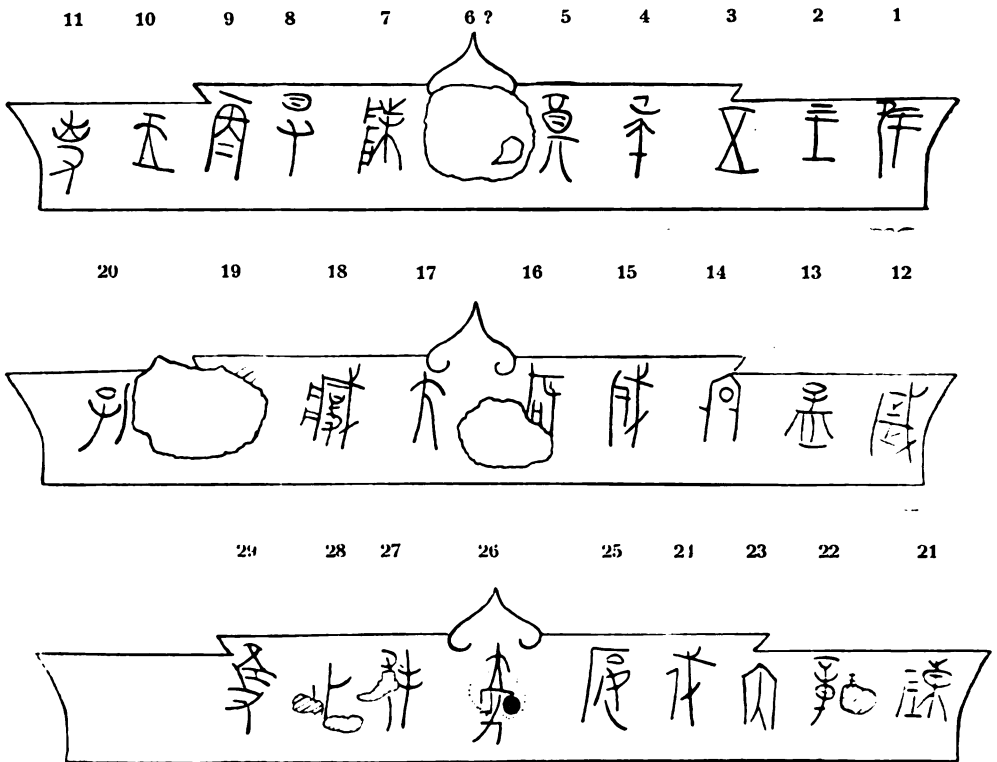


Fig. 4. Inscription of the Philadelphia Museum vase.

feature of this text is that it was certainly not cast with the vessel but was engraved later. In many places the effect of the engraver's tool is clearly visible in forming minute walls at the side of the engraved fossae.

After the inscription had been engraved, three very coarse and irregular nails were driven into this zone, one on side 1 and two on side 2; the two nail heads of side 2 cover part of characters 16 and 19, and it is quite likely that the nail upon side 1 completely covers what we believe to be the hidden character 6.

Not only after the writing had been engraved but after the insertion of the coarse nails the vessel remained in the soil for a long time, as is evidenced by the sparse but quite typical verdigris which covers not only the writing but the big and irregular nail heads as well.

On the meaning of the inscription and specially its importance for the dating of the vase Professor Karlgren has kindly given me the following notes.

1. »Kuo Mo-jo: *Ku tai ming k'o hwei k'ao*, reads: In the King's 5th year, in the year when Cheng X and Ch'en (= T'ien) X for the second time made an expedition, on the day mou-ch'en of the first winter month . . . Ch'en (T'ien) Sing entered and attacked Yen . . . booty». Since Ssü-ma Ts'ien (T'ien Ching-chung wan shi kia, Chavannes V, p. 276) says: Le roi Siang était à Kü depuis cinq années (279 B. C.), lorsque T'ien Tan, en se servant des gens de Tsi-mo, attaqua et battit l'armée de Yen; il alla chercher le roi Siang à Kü et le fit rentrer à Liu-tz'ü.

Kuo means that »the King's 5th year» refers to this year 279 and that the expedition mentioned in the inscription is that described by Ssu-ma Ts'ien. This seems quite likely.

Since the inscription ends with the word »booty», Kuo suggests that the vessel was of Yen make and was taken as booty in 279. This idea tallies well with the fact that the inscription is incised, not cast.

If Kuo is right, the vessel cannot be more recent than 279 B. C. but it can very well be considerably earlier.»

2. »In the inscription occurs the character Ch'en, the name of the grandee family in Ch'i which usurped its throne. Experience from various inscriptions has taught us that this Ch'en in bronze inscriptions has an additional radical 32 (T'u) which is not to be found in the graph of the literary sources. Our inscription here correctly has this rad. 32. This shows that it cannot have been forged in Sung time, for the graph with rad. 32 does not occur in any of the Sung time inscription repertories, and a forger would never have thought of adding this radical.

Again, the inscription speaks of an attack on Yen. The graph is one which has but very recently been recognized as being identical with the Yen of the well-known Pei-Yen, a neighbour state of Ch'i, which alone can give any reasonable sense in the inscription. No forger, even in modern time, would have thought of writing the Yen graph of the present inscription. For the rest, several characters are hidden under nails that were later driven into the vase, and many words are undecipherable. The inscription as a whole is therefore hardly translatable.

The ductus of the characters is typical of the »warring states» period (4th and 3rd centuries B. C.). This very inscription has been adduced as a specimen of the writing of that period by Professor Hamada in *Senoku Seishō*, 2d edition (8°) p. 10.»

Note 2 is the result of a re-examination of the inscription since I told Professor Karlgren that I wanted to bring up for discussion the alternative possibility of the vessel's being a later, say a Sung, product. It seems that Karlgren has upon palaeographic evidence very definitely disproved this alternative, so we may safely consider the inscription as certainly pre-Han and possibly dating from before 279 B. C.

A very interesting fact is the reference in the inscription to an attack upon Yen and the mention of spoils taken in war. Is it not quite likely that this

precious vase formed part of the loot taken and that the inscription was engraved on the order of the victor?

Each side of the main body of this vessel carries a geometric design which is arranged strictly symmetrically to the vertical median line (Pl. XIX). The decoration consists of narrow ridges and curved fields, some few mm. wide, and between these elevated parts there are wide fossae, one mm. deep, to receive the inlay.

The narrow raised ridges are slightly less than one mm. wide. They are partly straight, partly winding in complicated curves, often ending in simple volutes. A special effect is often produced by two such narrow ridges running parallel at a distance of slightly less than 2 mm.

In addition to the narrow ridges, and attached to them, are curved areas, 2—4 mm. wide, in their shape reminiscent of the blades of halberds and axes. Close to the sides of the median line there are some infrequent representations of *the volute and the triangle*, but these are quite subordinate.

The inlay on the main body is all malachite of fibrous and concentric structure and with a still quite brilliant lustre. This sumptuous use of malachite is the more noteworthy as malachite is rare in Chinese inlay technique, turquoise being the material commonly used.

The vertical foot of this vessel is decorated in a style slightly differing from that of the main body. The principal feature of this décor is straight bands, 3—5 mm. broad and crossing beneath oblique angles. To them are attached curved figures very much reminiscent of the curved figures on the main body.

To the sides of the body are attached two masks, each carrying a ring (Pl. XX). The main feature of this mask is a couple of horizontal bean-shaped t'ao t'ieh eyes. At the top there are on each side two featherlike fields. For the rest, there are on each side two of the hooks so characteristic of the relief décor of the Huai style. The interspaces between and within these main elements are covered with *the volute with the triangle*, and in the central part, just above the hook, we find four of the elongated »scales».

The ring adjoined to the mask is decorated in the manner shown in fig. 3 in the text.

When we look round for vases to be compared with this important specimen, we first of all note that White has reproduced as Pl. CLX (N:o 248) in »Tombs of Old Lo-yang» a four-sided bronze vase which seems to be very similar to the Philadelphia specimen. Unfortunately White's figure is not sufficiently clear to permit of a detailed comparison. He describes his specimen in the following words: »Four-sided bronze vase, with mask ring handles. The whole surface of this vase was uniformly carved with a deep floral and geometrical pattern, arranged unsymmetrically. This deep carving had been filled in with black lacquer level with the surface of the design, similar to *champlevé* enamel, but most of this had fallen out.»

Another vase similar to the Philadelphia specimen belongs to the art treasures of Mr. C. T. Loo in Paris. A photograph of it was donated to us by Mr. Loo. It bore his mark D. 107 and is kept in our photographic archives under number F. 1707.

In shape it is quite like the Philadelphia vase. It possesses a feature which is lacking both in the Philadelphia and in the Lo-yang specimens, namely a cover with four animals on the top.

The décor is different from that of the two other vases. Round the base of the neck there is a narrow horizontal band with its own ornamentation. The main body is subdivided into rhombic fields, the frame-work of which has the same décor as the horizontal zone at the base of the neck. The rhombic fields themselves contain a special ornament, at the centre of which is a hemispherical knob.

The neck above the said horizontal zone is decorated with triangular fields, a pattern which we know from many other vessels.

This specimen takes us a step further to the beautiful vase reproduced by Kümmel in *Chinesische Kunst*, 1930, Pl. 34. According to Kümmel this vessel is inlaid with malachite and a dark metal alloy. Its cover has four winged rings of the type shown in Pl. X: 2 b. Formerly, I believe, these rings were generally held to be a characteristic of Han vessels, but I consider this specimen Pl. X: 2 b to be a Huai piece.

Our comparisons take us some further steps to such gorgeously inlaid vessels as those illustrated in White, colour plate (N:o 262), and Eumorfopoulos catalogue Vol. I Pl. 24. The latter is very important as the décor upon the foot takes us well into the decorative style of the large, richly inlaid belt-buckles which are generally considered to be Han. Whether any of these richly inlaid vessels and buckles are pre-Han it is impossible to prove at present. The only thing we know beyond any doubt is that the Philadelphia vase with its exquisite inlay and very characteristic mask is pre-Han and probably not later than 279 B. C.

As we saw when dealing with White's vessel 252, this specimen, the main body of which is decorated in the genuine Huai relief style, has upon its rim an inlay décor which very closely recalls the inlay décor of many of the largest belt-buckles. For all these reasons it seems highly desirable to undertake a survey of the large inlay vessels and the corresponding belt-buckles in order to prove to what extent they may be pre-Han.

SOME ELEMENTS OF HUI INLAID BRONZES AND LACQUER.

The volute and the triangle.

Our starting point for the redating of the early Huai style was the Piao bells. Fourteen bronze bells, all much of the same type, were recently discovered in Honan, most probably in the tombs which have been described by White under

the name of Old-Lo-yang.¹ The most striking feature of these bells is their long inscription, which dates them at 550 B. C., as has been shown by a number of Chinese scholars and by B. Karlgren.²

These bells have upon their lower part a design in low relief consisting of interlaced serpent dragons (?) combined with a central t'ao t'ieh mask. The whole of this design is so entirely Huai that it seems certain that the early part of the Huai style must be dated about 550 B. C.

The top part of the bell, intended for its suspension, has a décor which in both style and technique is entirely different from the relief décor upon the lower part of the bell. Technically it consists of sunken areas, more or less resembling the letter Z and consisting of a pair of what we here call *the volute and the triangle*.

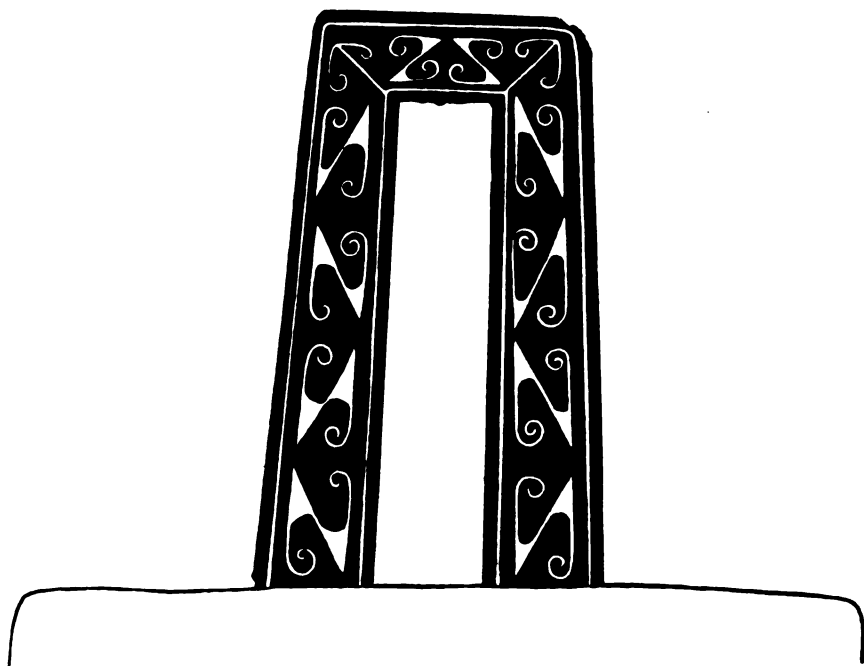


Fig. 5. Decor of the top part of one of the Piao bells.

(Textfig. 5 and fig. 6:c.) Of these Z-like figures there are four upon each side and two smaller ones at the top.

An examination of our plates of bronzes inlaid with gold and silver reveals that this design — *the volute and the triangle* — is very common among the inlaid bronzes.

¹ Mr O. Karlbeck, who has a very intimate knowledge of all these localities, considers it probable, if not certain, that the Piao bells came from Old Lo-yang, not from Kung Hsien, as was stated by Hsü Chung-shu, who described them.

² See Karlgren: On the date of the Piao bells. BMFEA Vol 6. P. 137—149.

Thus, for instance, if we look at the two handle mountings Pl. XIII, we shall find in the middle band numerous rather broad specimens of the volute and the triangle, one of which is reproduced in fig. 6: a in the text.

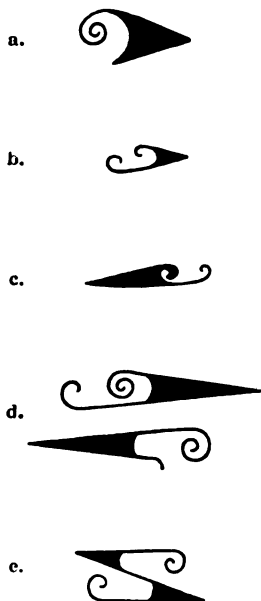


Fig. 6. The volute and the triangle pattern of various Hual bronzes.

Another typical instance of the volute and the triangle we find in Pl. VIII: 2, the middle band of the décor of a Ko handle. In this case (text fig. 6: b) there are two very simple volutes at the base of the triangle, one nearer, the other more distant.

A further development of this type we find on the small buckle in the shape of a long-billed bird, Pl. VI: 2 (text fig. 6: c) and this feature with the two volutes is still more strongly emphasised in the wheel axle mounting Pl. IV, the bottom row (text fig. 6: d).

The diagonal and the volutes.

In describing the Ku-wei-tsun lacquer Pl. XVI we have traced a very interesting evolutionary series, text fig. 1, beginning with a stylized bird (1) and ending with a geometrical design consisting of diagonals and volutes (2). (See text fig. 7: a.)

This combination of diagonals with volutes recurs on several of the bronzes here described. Thus for instance the Ko handle fitting in Pl. VIII: 1, top band (text fig. 6: b) where we not only have the diagonals and the volutes but can also trace the wings of the bird upon the Ku-wei-tsun lacquer, text fig. 1: 1 & 3.

Other instances of this design are found in the middle bands of the handle fittings in Pl. XIII (text fig. 7: c & d), and the wheel axle mounting in Pl. V, where we find two different variants of this pattern (text fig. 7: e & f).

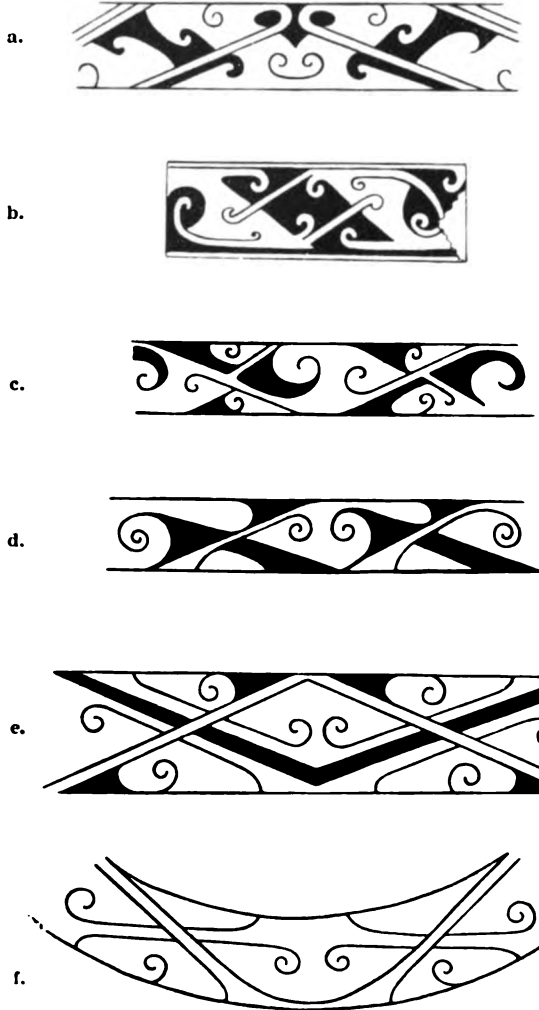


Fig. 7. Diagonal and volute pattern.

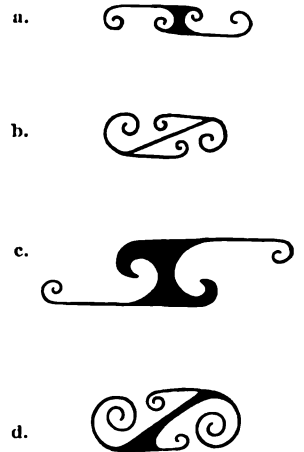


Fig. 8. The quadruple volute pattern.

The quadruple volute.

For lack of a better term I have given this name to the figure at the very bottom of the Ko handle in Pl. X: 1 (text fig. 8: a).

The same design reappears on the wheel axle mounting in Pl. V, and here we have no less than two variants of the same (text fig. 8: b & c). A further instance is Pl. XV: 2 (text fig. 8: d).

The T-figure.

A very conspicuous detail of the inlaid Huai bronzes takes the shape of the capital letter T.

The instances are quite numerous, and it may suffice to refer to text fig. 9 where references are given to the specimens in question.



Pl. XI: fig. b.



Pl. X: fig. 1.



Pl. X: fig. 1.



Pl. XIII: fig. 1.



Pl. VI: fig. 1.



Pl. XIII: fig. 2.

Fig. 9. The T-shape pattern.



Fig. 10. Volute and triangle pattern upon the cover of a Li-yü tripod.

The four decorative elements, *the volute and the triangle, the diagonal and the volutes, the quadruple volute and the T-figure*, which we have discussed above, are all characteristic features of the inlaid bronzes of the Huai period, and it seems very likely that some of them have been invented largely for the purpose of suiting the inlay technique. However, at least one of them, the volute and the triangle, is not infrequently met with among the low-relief Huai bronzes. An instance of this is illustrated in text fig. 10, showing part of the décor of the cover to one of the Li-Yü tripods.

HUI VERSUS HAN IN INLAID BRONZES AND LACQUER.

The standard work on inlaid Chinese bronzes is Rostovtzeff's splendid volume: *Inlaid bronzes of the Han dynasty in the collection of C. T. Loo*, 1927. Similarly, our knowledge of early Chinese lacquer is almost exclusively derived from the

monumental publications of the Japanese archæologists on their systematic excavations in Korea.

Several of the Korean lacquers are definitely dated in the middle of the first century A. D. As a comparison between these lacquers and the inlaid bronzes described by Rostovtzeff reveals very close relationship in style, the Korean finds give very strong support to Rostovtzeff's opinion that the inlaid bronzes described by him are of Han age. It may be safe to add that the different pieces reproduced by Rostovtzeff may not all be of exactly the same age.

Rostovtzeff's volume, and also other evidence, have given rise to the opinion in the Western world that inlay in gold and silver was not commonly practised in China before the Han dynasty. In our publication on the 1933 exhibition of this museum we were impressed by that idea, and all the inlaid bronzes exhibited were marked as Han or later.

It is only an act of justice to state that the Chinese scholars were never attracted by this prejudice as to the beginning of metal inlay. On the contrary, the Chinese antiquarian works mention several instances of gold inlaid bronzes dating from earlier periods (see p. 4 above).

In this paper we have tried to prove that there existed already in Huai time, probably in part as early as in the sixth century B. C., a rich production of gold and silver inlaid bronzes. Side by side with this art of the goldsmith there existed an art, so far but little known, of lacquer painted in the very same designs as the inlaid bronzes. Our plates II—XVI give abundant instances of this style, which is mainly geometrical, with some intermixture of strongly stylized animal figures. On the whole this style is very distinct and expressive but at the same time strictly orthodox, with a limited number of ever-recurring elements. Its Huai age is well established, as proved in the preceding paragraphs.

This Huai style of inlaid bronzes and painted lacquer stands out as something quite different when compared with the Han bronzes and lacquers as known from Rostovtzeff's work and the publications of Japanese archaeologists on the Korean finds. The inlay or painted decoration of these Han objects is far richer than the décor of the Huai pieces, and includes numerous small animals, rather naturalistic in their execution, and intermingled with the intricate network of dragon arabesques, spirals and wave lines.

Upon a closer examination of these Han designs we shall be able to trace in them many elements quite familiar to us from the study of the Huai objects. There is an evident relationship between the two styles, and it is easy to trace how the more recent one has developed out of its predecessor by absorbing new naturalistic elements as well as by complicating and softening the bold and strictly geometrical Huai patterns. In many ways this Han style exhibits evidence of dissolution and decay. The earlier strength is lost and its place has been taken by an effeminate softness and luxury.

Among the bronzes at my disposal for examination are three pieces, all belonging to H. R. H. the Crown Prince, which should certainly be included in the Han group of inlaid bronzes.

One is a small bronze tube inlaid with gold only and somewhat poorly photographically reproduced in Pl. XLV, fig. 5 of our »Exhibition» volume. The drawing shown in our present Pl. XXI: 1 gives a quite concise representation of its décor in gold inlay. By means of a zigzag frame-work the cylindrical surface is divided into narrow triangular fields in which we find phoenixes and half-human figures, the latter identical with Rostovtzeff's man-birds, which are described by that author as follows: »He has a curious winglike tuft on his head and a long thin beard. His arms and legs are feathered» (l. c. pag. 17). All this can be said of our bird-men as well, with the single exception that they have no beard. The two bird-man figures at the base are kneeling, those at the top are standing upright.

Pl. XXI: 2 represents a cylindrical pole-top, photographically reproduced in »Exhibition». Pl. XLV: 3. The inlay in gold and silver consists of voluminous dragon arabesques, wavy lines, short vertical lines and, upon the circular top-surface, a threefold pattern of spirals. The rich design of dragon arabesques is closely related to the corresponding décor on inlaid bronzes described by Rostovtzeff, to the Noin Ula textile illustrated by Kümmel: *Chinesische Kunst* Pl. 59, to a certain group of mirrors which we date as late Huai or early Han, and to the painted décor upon some mortuary urns held to belong to the Han dynasty.

This bronze is ornamented in the midst of the dragon-arabesque décor with two characters An-ch'ang (安昌) in gold. An Ch'ang, according to Professor Karl-gren's kind communication was a district corresponding to the present K'io (Ch'üeh)-shan Hsien of Ju-ning-fu in Honan. It was established by the Han emperor and given in fief to a certain Chang Yü in 25 B. C. Before that date the name is not mentioned in Chinese literature and consequently this brief inscription permits an approximate dating of the bronze.¹

Pl. XXI: 3 represents a dainty little rabbit belonging, like the two preceding pieces, to the collection of H. R. H. the Crown Prince. It is inlaid with gold and silver in minute detail. The design seems to tend towards the Han style and I have therefore tentatively included it in that group.

The aim of this paper is very modest and limited. I have entertained no ambition to outline the stylistic and chronological boundary between the Huai and Han styles. My intention has been only to prove that gold and metal inlay — together with other manifestation of the goldsmith's art — were abundantly cur-

¹ At the time of our exhibition in 1933 we held the view, that the gold- and silverinlaid bronzes all were of Han age. Consequently, in the description prepared by Dr. N. Palmgren, such typical Huai specimens as Pl. XLVI: 1 & 5 were marked as Han. Most deplorable is that in Pl. XLV, marked Han style, two genuine Han pieces such as fig. 3 and 5 were mixed with typical Huai specimens fig. 1, 2 and 4.

rent in the Huai time side by side with the production of bronzes with the well-recognized low relief décor.

Thanks to the kind help of my friend Professor Karlgren I have been able to take as starting-point for my discussion some actual established dates.

Foremost in importance stands the year 550 B. C., the date of the Piao bells. True, there is no metal inlay found on these precious pieces, but it seems very likely that the sunken decor was once filled with some kind of inlay paste, which has weathered away, in this case as in that of numerous other bronzes. At any rate we learn from the Piao bells that this very characteristic pattern, *the volute and the triangle*, was already in 550 B. C. fully developed and associated with the already luxuriant low-relief décor that ruled supreme during the Huai time.

Another date — far less certain, it is true, is 575 B. C. as the probable date of one piece of the great Hsin Cheng find, which in every way bears the mark of transition from the Middle Chou to the Huai style and which contains some of the most remarkable manifestations of the early goldsmith's art; I refer to the large gold sheets with impressed design.

Two much later dates proving the long life-time of the Huai style are 299 B. C. for the Berlin vessel and 279 B. C. for the Philadelphia vase, both these dates marking only the latest dates to be attributed to those richly inlaid bronze vases.

Professor Karlgren has with his usual kindness called my attention to a work that reached him only within the last few days, namely Shang Ch'eng-tso: *Shih ér chia chi chin t'u lu*, 2:2. Here is reproduced and described a tripod of a peculiar shape and with a décor consisting mainly of groups of the *volute with the triangle* (text fig. 11).



Fig. 11. Volute and triangle pattern of a Shou-Chou tripod.

This tripod bears a long inscription, which mentions a king of Ch'u, Yu Wang, who reigned in Shou Chou in 237—228 B. C. and who ordered this tripod to be cast of bronze taken in war.

This vessel is of exceptional importance for our present study as it proves that *the volute and the triangle*, the main element of the Huai inlaid style, an element that on the testimony of the Piao bells was in existence already in 550 B. C., still prevailed in the second half of the third century B. C. Consequently

we have definite proof that the Huai style ruled for at least three centuries from 550 to 237—228 B. C.

On the other hand we have an approximate date for the pole-top fitting, plate XXI: 2, which belongs, according to its inscription, to the second half of the first century B. C. This coincides well with the dating of the Lo-Lang lacquers in about the middle of the first century A. D. The exact date of the transition from the Huai style to the Han style is so far not definitely settled. It seems to be not quite impossible that the Huai style survived for some time into the beginning of the Han dynasty. At any rate, the history of Chou art has taught us that the transitions of the art styles do not necessarily coincide with the changes of dynasty.

BRANCHES OF THE GOLDSMITH'S ART.

The earliest specimen of the goldsmith's art which we have been able to examine is the gilt bronze axe from An Yang belonging to Mr. Oeder (Pl. I). This is most probably a case of fire-gilding.

Rare and spectacular manifestations of the goldsmith's work are the gold sheets from Hsin Cheng (Pl. XVII). The design is in this case pressed or hammered into the thin gold sheet.

By far the most important branch of the goldsmith's art in ancient China was the inlay. The use of gold and silver for the purpose of inlay became very frequent only during the Huai period. But long before that time, already during the Yin, the dawn of dynastic history, inlay was practised, although not usually, with a noble metal as the inlay substance.

An interesting case of inlay with turquoise is found in the ivory carvings of An Yang and the rich inlay of turquoise in the sunken patterns of Ko axes, also from An Yang. Another type of Yin dynasty inlay has recently become widely known thanks to the numerous bronze vessels from An Yang which contain a filling of a black, presumably bituminous substance, evidently applied for the purpose of heightening the effect of the décor.

There are certain indications of the existence of Yin and Chou bronzes inlaid with gold and silver. For details we refer to our chapter 'Inlay in pre-Huai time' (p. 4 above). Nevertheless, everything goes to show that metal inlay was relatively rare in those early days.

Inlay with gold and silver, sometimes combined with the use of turquoise and malachite, became a common fashion of the time with the introduction of the Huai style, of which the inlay objects formed an integral part. It is true that the inlay technique to a large extent demanded its own designs, but there are many connections with the patterns in low relief.

Our detailed descriptions have shown that the inlay was fashioned in two different ways. Sometimes, and probably most often, the gold or silver plate was cut

out in figures conforming to the spaces to be filled with inlay. But in some few cases we have been able to prove that the inlay was composed of a kind of mosaic of tiny metal wires laid side by side to fill the intricate spaces intended for the inlay.

Pl. XIV: 1 & 3 gives us two rare instances of a special type of inlay, scales of turquoise surrounded by some other substance. XIV: 1 is a belt buckle from Shou Chou, K. 11290: 109 of this museum. It is 212 mm. in length. The underside is in transverse section quite flat, the upper very boldly curved, smooth, except for the scale inlay, which will be described in the following. The specimen is covered with a very heavy malachite incrustation, which conceals many details of the décor. It is evident that both ends are gilt, the gilding covering the whole of the upper side of the dragon's head. All along the body there runs a narrow gold line at the edge between the upper and lower side. This gold line is two mm. broad on the upper and only one mm. on the lower side. The main décor of the upper side consists of scales of turquoise embedded in some black, much-decayed substance (text fig. 12).

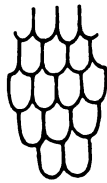


Fig. 12. "Zelleneinlage" of the belt-buckle XIV:1.



Fig. 13. "Zelleneinlage" of the bronze object XIV:3.

Pl. XIV:3 is a small bronze object of indeterminate, possibly very late age. It is perforated lengthwise, and in this central hole there are traces of a string. At the top of the bronze tube is a perforated knob of some reddish-grey substance, possibly some decayed glass-paste. The outside of the tube is adorned with turquoise scales framed in by corrugated ridges with gilt surface. At both ends of the tube there are broader string-like ridges with gilding.

The belt buckle is Huai or later, the other small piece may be much more recent. They represent Chinese examples of the technique called by the Germans »Zelleneinlage«. For comparison we may refer to an Egyptian armlet from about 1600 B. C. reproduced by G. Möller: *Die Metallkunst der alten Ägypter*, Pl. 18.

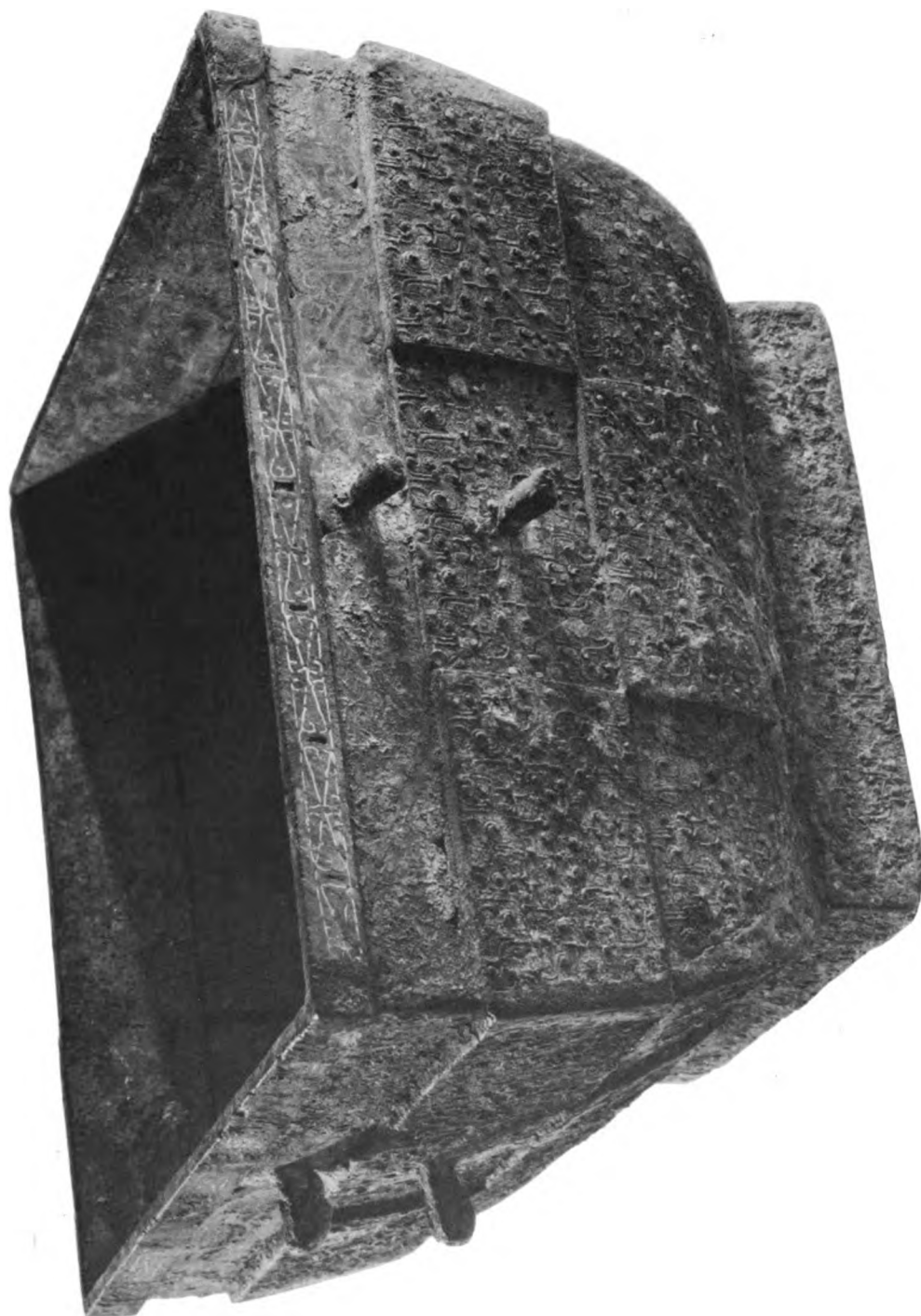
That objects were made in solid gold already in the Huai period seems fully proved by the sword hilt in excellent gold open-work, belonging to the Eumorphopoulos collection. (Sirén: *History of Early Chinese Art*. Vol. I, Pl. 92 B).

Small bowls of silver with richly incised decoration and head-dresses of open-work gold and silver became abundant in the Tang and Sung dynasties. A woman's funeral head-dress in three pieces and executed in magnificent gold filigree work, probably of Tang age, is in this museum.

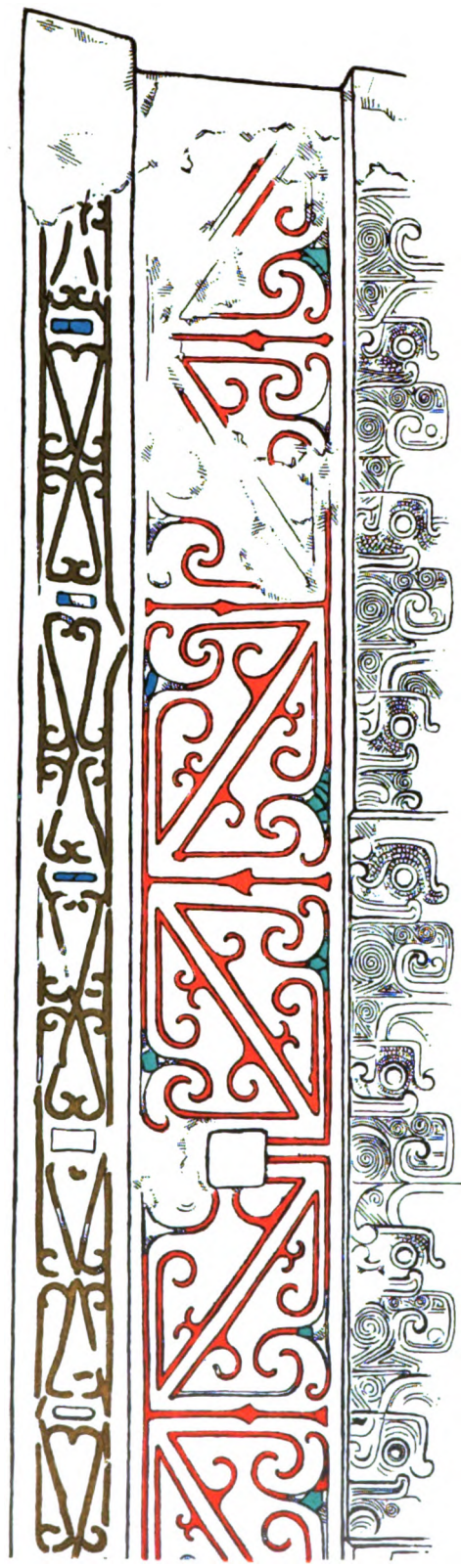


Axes from Anyang.

1. Oeder specimen, gilt 3.5. 2. Malmô museum specimen, 3.4.

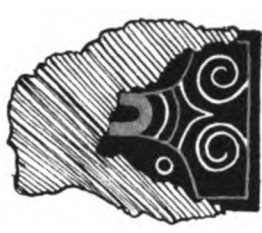
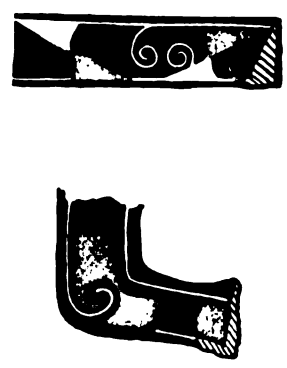


White's vessel 252.

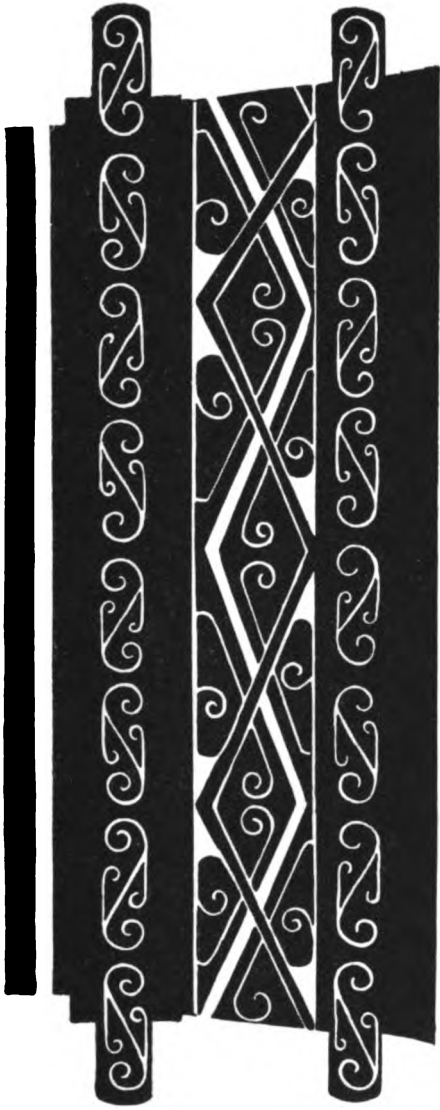


- Gold
- Copper
- Turquoise
- Malachite

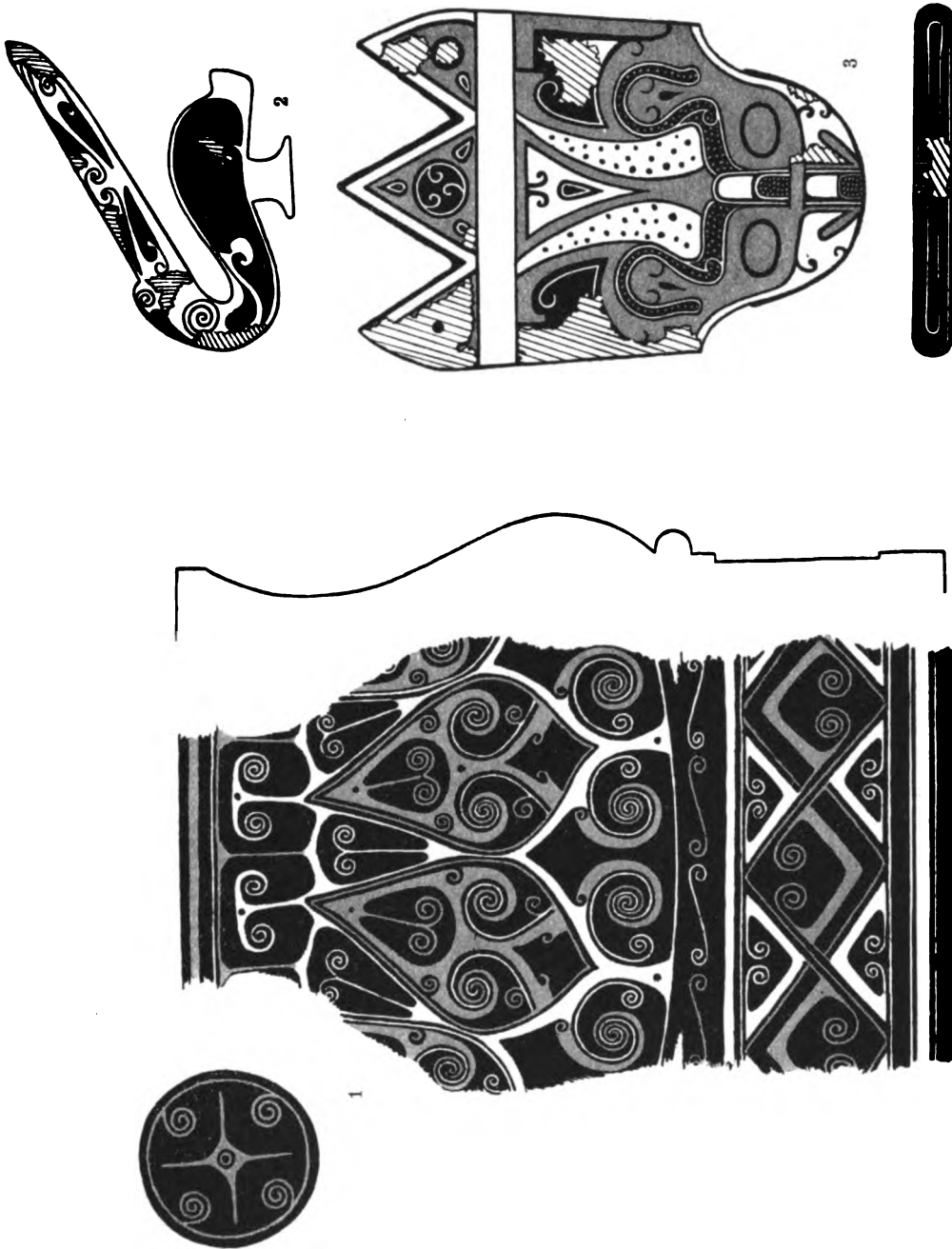
Detail of White's vessel 252. Nat. size.



Wheel axle mounting. Nat. size. Lundgren. Black = bronze. White = silver. Tone = gold.



Wheel axle mounting. Nat. size. Black = bronze. White = silver.



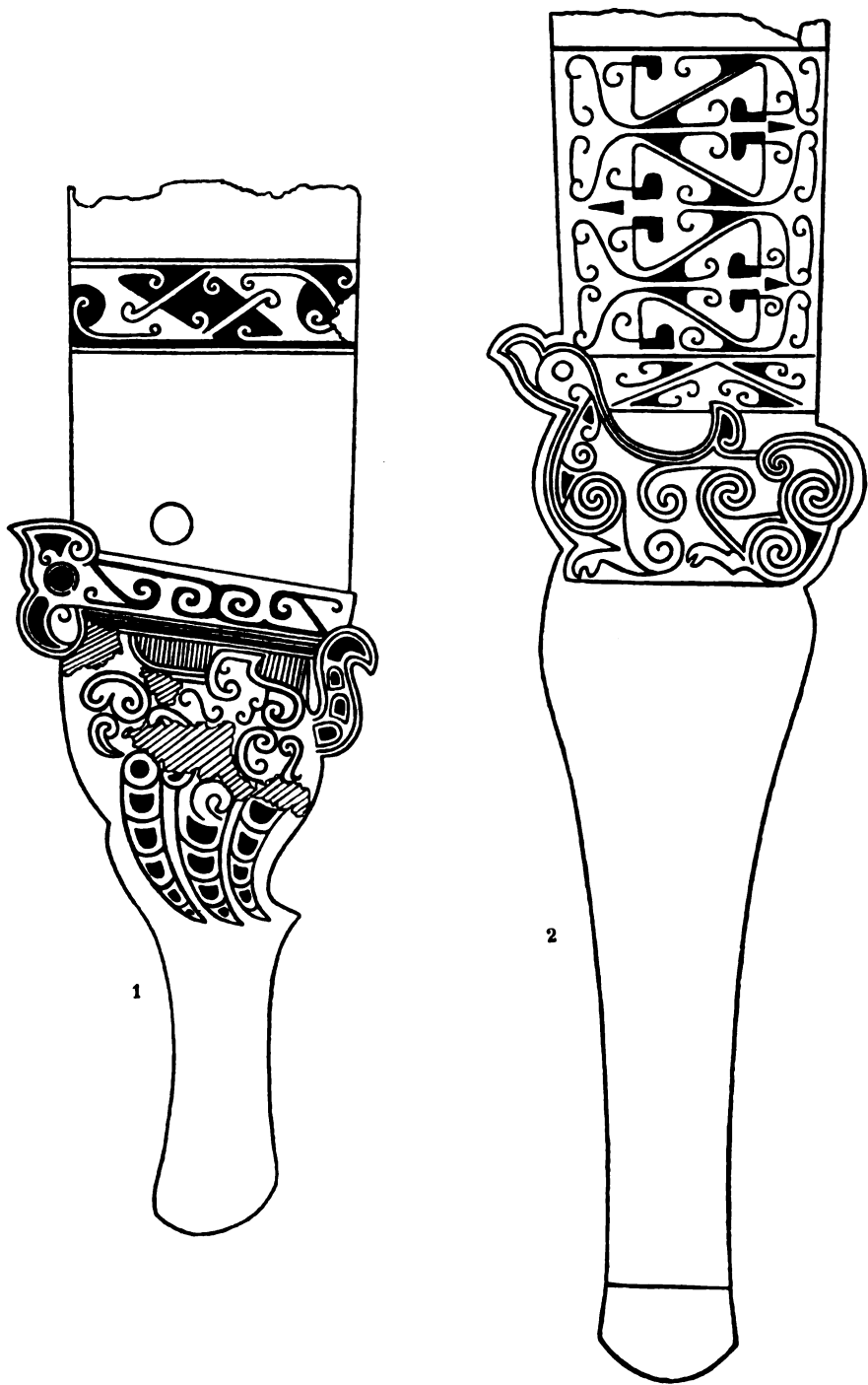
1. Pole top mounting. Old Lo-yang. Lundgren. 2. Belt hook. Shou Chou. 3. Serpent head. Old Lo-yang. H. R. H. The Crownprince. Legend like Pl. IV. 7: 8 of nat. size.



Ko handle mounting Shou Chou. Nat. size.



Ko handle mounting Shou Chou. Nat. size.

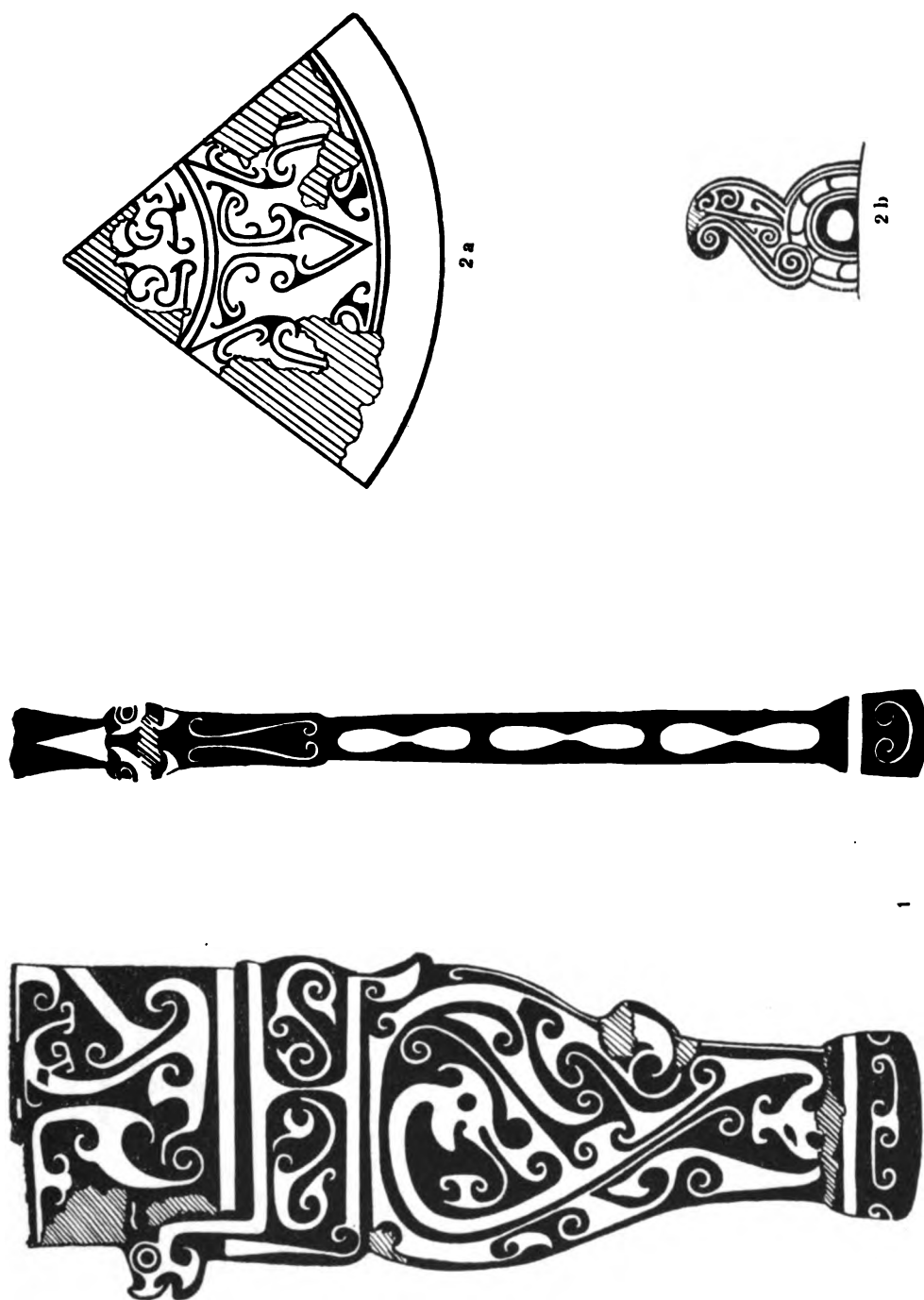


Ko handles. Shou Chou. Hellström. Empty spaces back. Nat. size.



Huai bronzes. Nat. size. 1. British Museum. 2. Seligman.

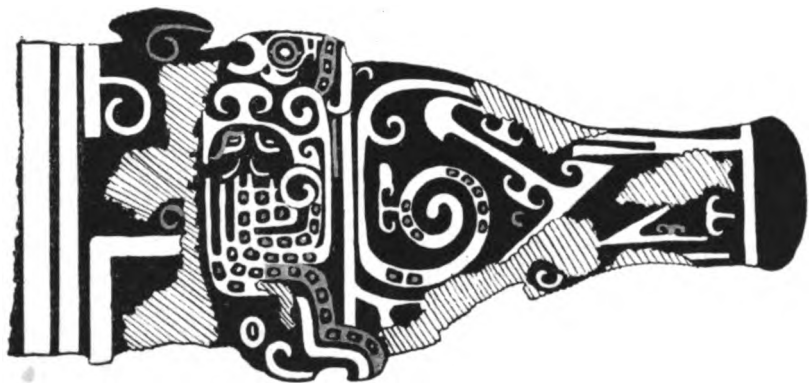




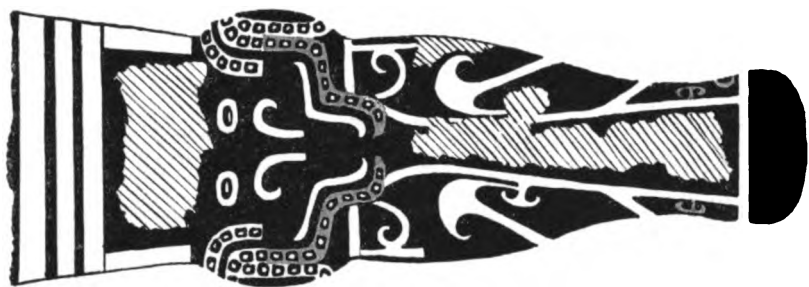
1. Ko handle, Shou Chou. Laurin. 2. Details of bronze cover. Nat. size.



a



b



c

Ko handle. Old Lo-Yang. a & b side-views. c back view. Nat. size. Black = bronze. White = silver. Tone = gold.

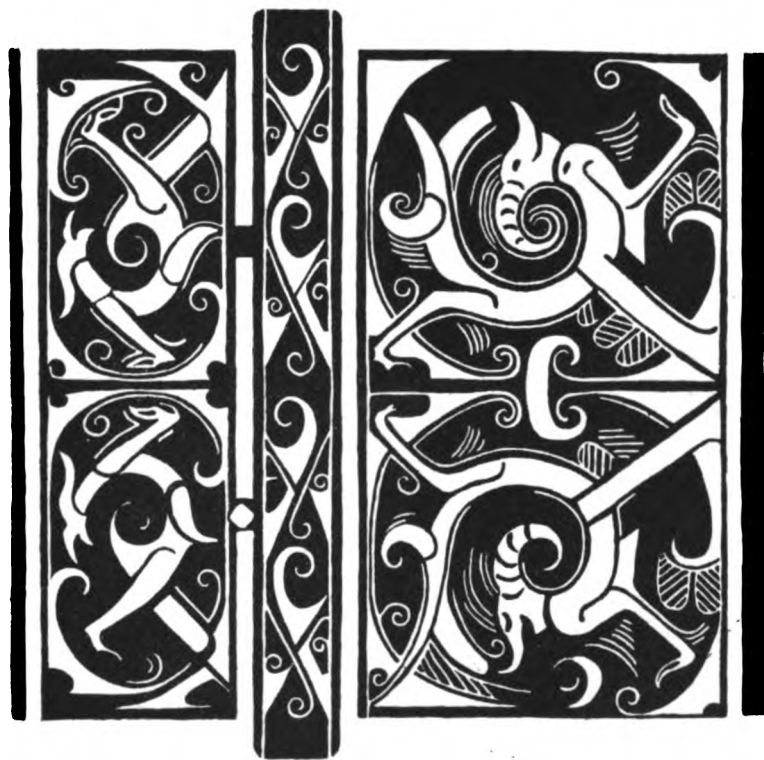


1



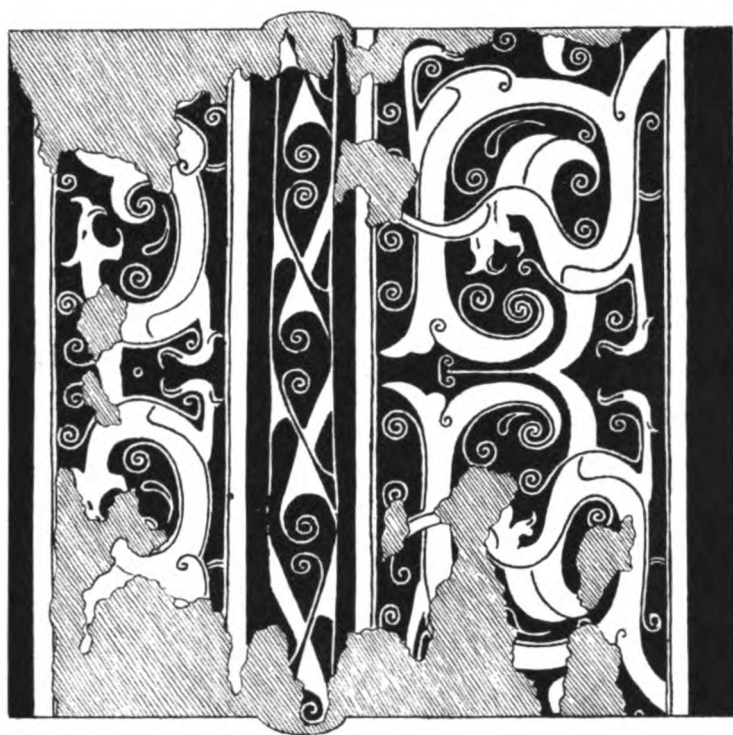
2

Handle mountings. Shou Chou. 1. Malmö museum. 2. Laurin.
Approx. nat. size.

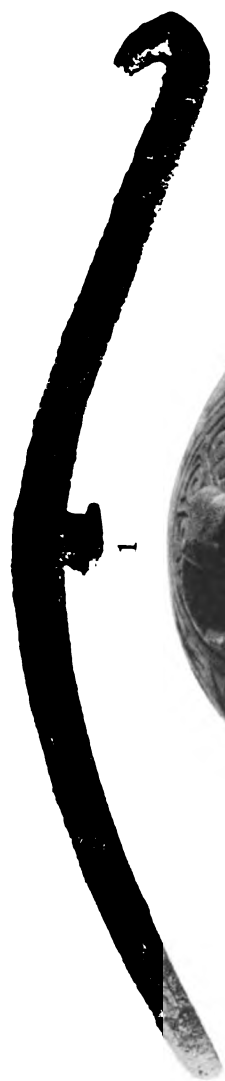


1

Handle mountings. Shou Chou. 1. Laurin. Nat. size. 2. Malmö Mus. 9:10 of nat. size. Black = bronze. White = silver.



2



1



2



3

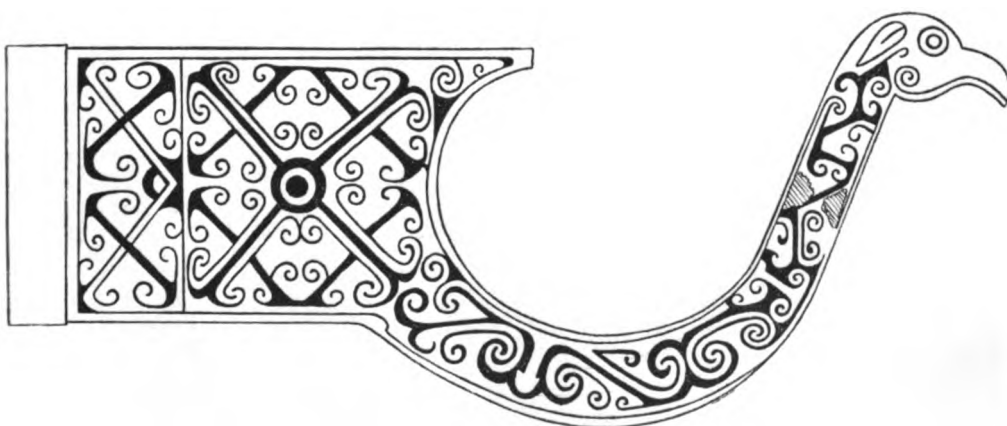
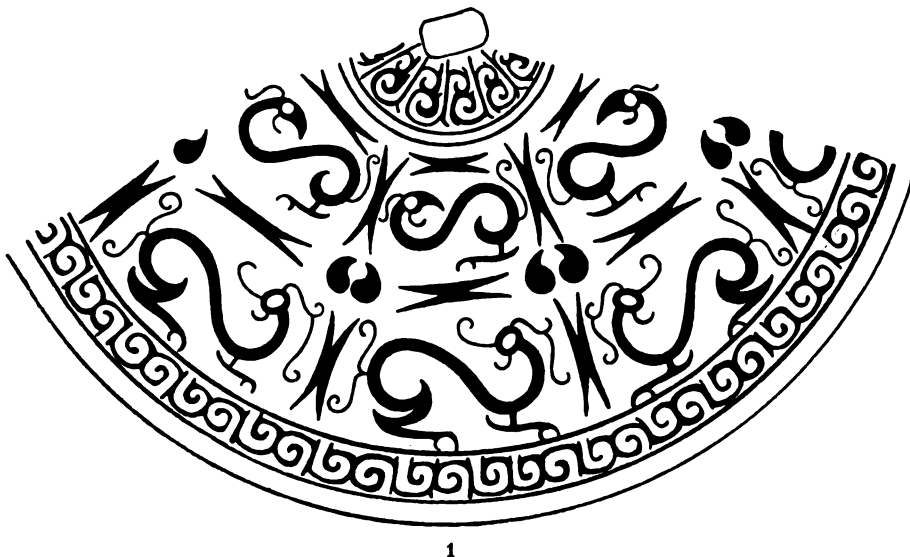


4



5

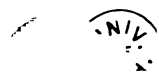
Various bronzes 1 & 3, 2:3 of nat. size. 2, 4 & 5, approx. nat. size.



1. Semiglobular bronze (= Pl. XIV: 2) Shou Chou.
2. Pole mounting. 7:10 of nat size.
Empty spaces black.



The Ku-wei-tsun lacquer. Nat. size.





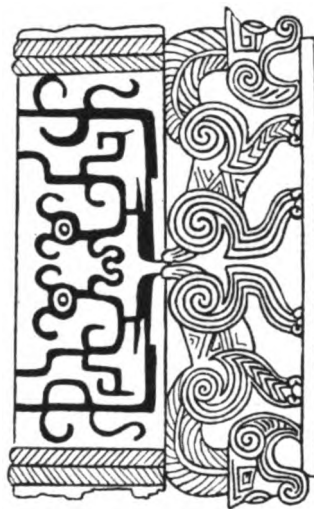
The Hsin Cheng gold sheet.
Approx. 7:9.



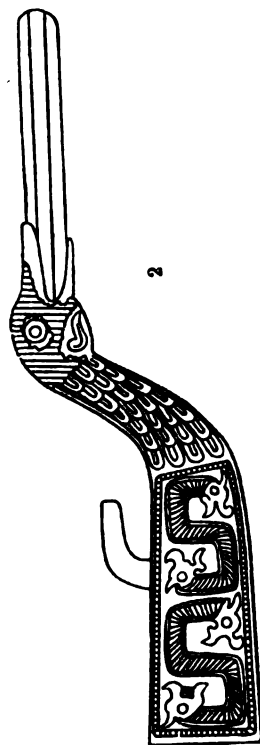
3



4



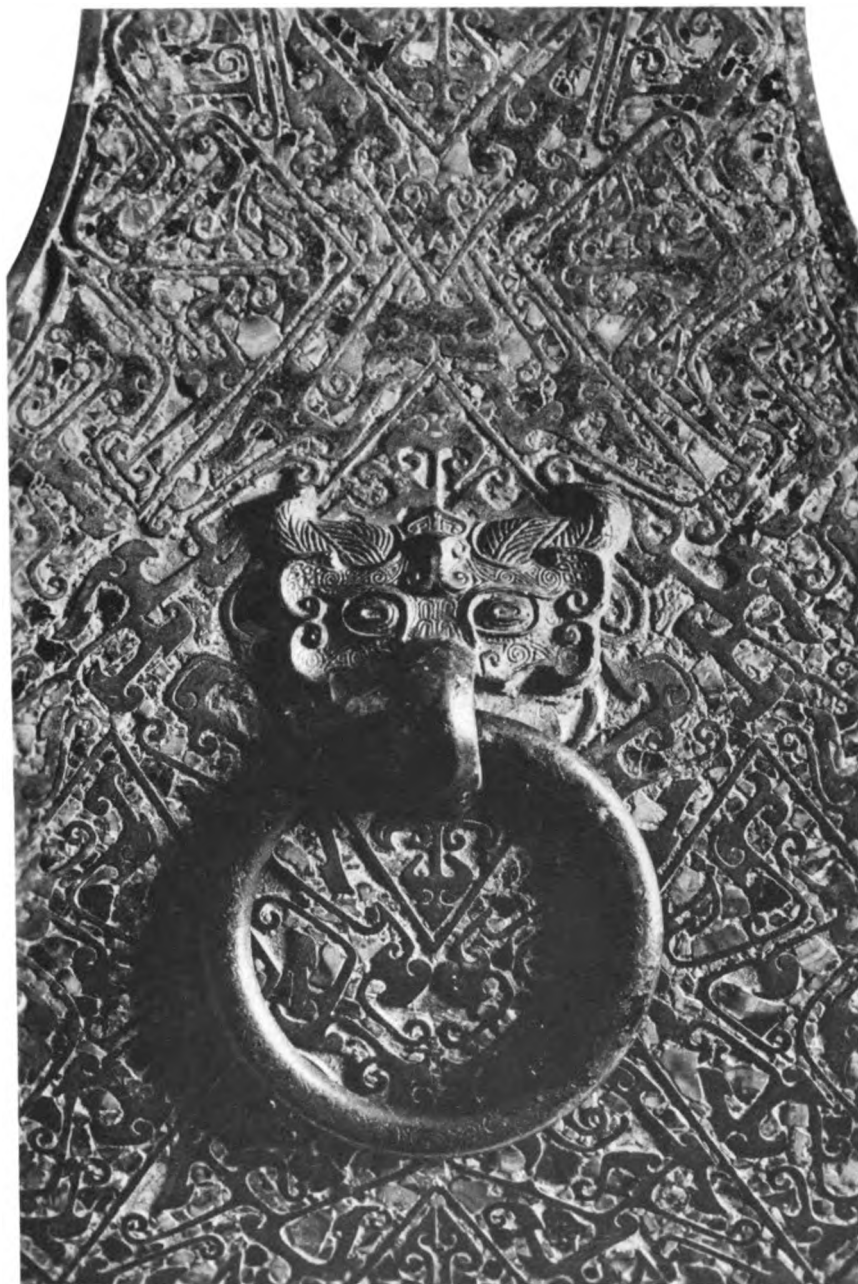
2



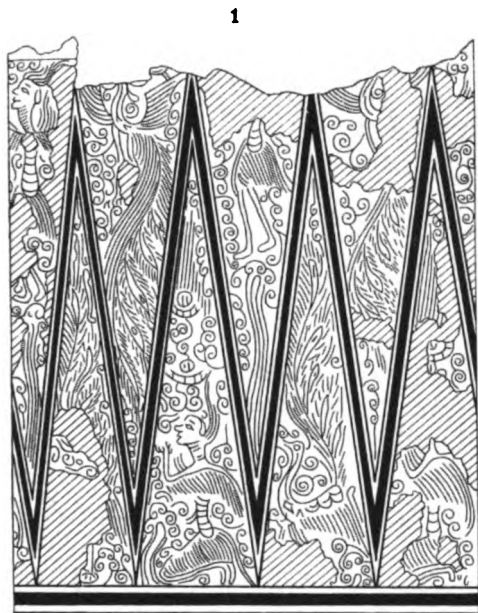
1. Hsin Cheng gold sheet. 2—4. Bronze objects, probably Shou Chou. Nat. size.



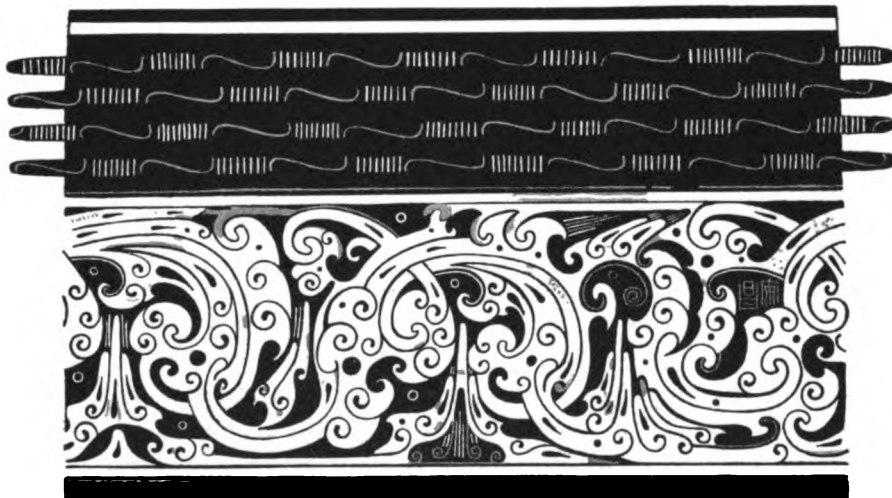
The Philadelphia Museum vessel.
Approx. 1:2.



The Philadelphia Museum vessel. Detail.
Nat. size.



2 a



Han style inlaid bronzes. H. R. H. The Crownprince. 1 & 3 approx. nat. size. 2, 4: 5 of nat. size.
1. Black = gold. White = bronze. 2 & 3. Black = bronze. White = silver. Tone = gold.

ANYANG MOULDS

BY

O. KARLBECK.

Before commencing my article I should like to express my gratitude to Mr. O. Elmquist, proprietor and manager of the Elmquist Cire Perdue Bronze Foundry, for the very valuable assistance he has rendered me. He has carried out all the necessary tests at his foundry. He has also written the three parts entitled ›Bronze Casting Methods‹, ›Requisites for Moulds‹ and ›Arguments in Favour of Direct Casting‹.

I am also greatly indebted to Professor J. G. Andersson, Professor B. Karlgren, Professor W. P. Yetts, and Mr. H. Wallace for many helpful suggestions.

INTRODUCTION.

During a visit paid to Anyang in August 1934 I obtained from a local dealer some fragments of clay moulds for bronze vessels which the dealer informed me he had obtained in the village of Hsiao-t'un. The moulds were all rather worn, but nevertheless the ornaments could be deciphered and were carried out in a style generally found on bronze vessels from Anyang.

The only moulds for bronze vessels known to me at the time were the fragments found by members of the Academia Sinica at Anyang and kindly shown me by Dr. Li Chi. I consequently considered my find as highly important.

The following day I went to Hsiao-t'un to inquire if the villagers had any clay moulds to offer. A crowd soon gathered, and when they found that I was interested in buying they soon appeared with their treasures. These consisted mostly of clay vessels of types such as Chüeh and Ku, but I was also shown small fragments of burnt clay carrying simple ornaments. One fragment of a mould, apparently the only one in the village, I obtained. This was similar to those I had already purchased. They advised me that it was found west of the village.

During the remainder of my stay I made a careful search for more moulds. As the town is rather small the news travelled quickly and it must therefore have become known to all who take an interest in such matters what I was look-

ing for. When I departed I had procured a total of 25 fragments, chiefly through the aid of two small local dealers.

Unfortunately they could not or, which is more likely, would not tell me exactly where the moulds had been found. All the information I could obtain was that they had purchased the moulds in a village west of Hsiao-t'un. All I could be certain of was the fact that the moulds must have been found in one spot, and that the farmers had by chance discovered what seemed to be the site of an ancient bronze factory.

On my return to Peiping a month later I exhibited my find to one of the leading dealers, a man who takes a keen interest in archæological studies. He became very enthusiastic over my material, so much so in fact that he eventually dispatched one of his assistants to Anyang to see if it would be possible to procure more.

Unfortunately my time in Peiping was limited and it was not until I returned 3 months later that I found that the dealer's efforts had been crowned with success. The assistant had sent him many moulds from Anyang, and before my departure he turned up with a second lot, which he claimed he had obtained at the same place. My passed dealings with the man gave me every reason for believing his statement.

The moulds which were offered to me formed a collection of 145 pieces. A few of them were almost complete mould sections. All carried ornaments which at any rate Chinese archæologists consider as Yin. The dealer had obtained other fragments from Anyang but these had passed into the hands of Chinese collectors prior to my arrival. The assistant who had collected them told me that they had all been found at one and the same place located about 7 li ($3\frac{1}{2}$ km.) from Hsiao-t'un, and he described the site as a rise in the ground.

If the dealer was correct in his statement it could only mean that these fragments were the refuse from one and the same bronze factory. I felt that by the aid of the ornaments which adorned them it would be possible to determine more or less contemporary patterns.

As soon as I compared my own purchases at Anyang with those from the dealer I felt quite certain that they came from the same source. They were all made of the same porous clay, and all the moulds were constructed on similar principles. But there were direct proofs that at least some came from the same 'pit'. There were for instance two pieces, one bought at Peiping and the other obtained at Anyang, which unquestionably belonged to the same mould. They were sectional moulds for a vessel of the Ku type. They morticed together perfectly, and the complicated design was almost identical. The same was the case with some fragments from the two Peiping lots. Both contained pieces which undoubtedly belonged to one another. It was thus proved that at least some of the Peiping fragments had been found in what I shall term the original 'pit', and I am therefore of the opinion that all the fragments came from the same source.

BRONZE CASTING METHODS.

Although Professor Yetts has already described¹ the various methods by which early bronze objects were cast, we feel that a brief note on the subject would not be out of place and should be included in this treatise.

Early bronze casting was carried out by two radically different processes. One we will call the direct process. The other is known as the *cire perdue* or lost wax process. According to the former method the molten metal was poured directly into a mould. In the latter method a model of wax was first prepared. A mould was then formed about this model, which when melted out left the mould ready for casting.

The moulds for the direct process casting are of two principal types:

1. Permanent moulds which were used repeatedly.
2. Moulds which permitted of only one or possibly two castings.

The earliest permanent moulds were probably made of stone. The mould could either be open or composed of two or more pieces. Metal was also used for this purpose, being employed in China at least as early as the Han Dynasty.

The other type may have been either open or closed. Open moulds were probably nothing more than simple forms or depressions made in the sand or clay or in the ground itself. Closed moulds were of sand or clay. When such a mould was to be made, a clay model of the object to be cast was fashioned. The mould was then constructed about the model in pieces which would best facilitate the removal of the forms. The clay mould pieces were generally furnished with mortices and tenons to ensure a steady connection, and the core was securely fastened to the mould by the same means as well as by 'guides'.

In the *cire perdue* method the wax model was formed in two ways:

1. The wax model was fashioned over a core of clay, and the necessary designs incised.
2. The wax model was cast in a piece mould.

In the latter method a mould composed of tenoned and morticed sections was first prepared and the necessary patterns engraved. A thin coating of liquid wax was then applied to the ornamental design with considerable care, and the sections assembled. Successive layers of wax were now added until the required thickness had been obtained, when the material for the core was added. The sections were then removed and the model retouched.

It was also possible after the application of the first coatings of wax to assemble the mould sections round a previously prepared core and to fill the cavities with liquid wax.

After the completion of the wax model the mould for the bronze was prepared

¹ In *The Catalogue of the George Eumorfopoulos Collection of Chinese and Korean Bronzes*. Vol. I, *Technique of Bronze Casting*, pages 34—39.

by dipping the wax model in a liquified clay material, or by a painting process. In either method the successive layers of material were applied thinly.

The mould material could also be applied in a plastic state. In this case it was pressed against the surface of the model. This method has one advantage inasmuch as the material contains little water and consequently is less subject to shrinkage.

After the mould had obtained its required thickness it was baked. The wax was then melted out, escaping through specially prepared vents, and the mould was ready for casting. In this instance the core became an integral part of the mould.

A wax model prepared within a piece mould has one advantage over the model fashioned over a core of clay. Many models complete with ornamental patterns could be cast in the same mould whereas a model fashioned round a core would only allow of one bronze cast. After the removal of the mould pieces, unsightly »seams« could easily be removed from the wax cast and irregularities in the design rectified.

REQUISITES FOR MOULDS.

1. A material suitable for moulds must have the capacity to withstand the high temperature of the molten metal.

2. The adhesion between the particles should be so strong that the onrushing stream of the liquid metal does not in any way harm the surface.

3. The material should be sufficiently porous to allow part of the gases formed during the pouring process to escape.

4. The grains must be so minute that a perfectly smooth surface is obtained.

5. The shrinkage during the hardening process must be so infinitesimal that the mould neither cracks nor warps.

ARGUMENTS IN FAVOUR OF DIRECT CASTING.

The following evidences concerning the moulds prove that they have been in contact with molten metal and that they were therefore used for the casting of bronze!

1. In bronze casting as practised to day the moulds for the molten metal resemble in several respects the Anyang fragments. As a result of the baking they turn red, but during the casting process the portions which are in close contact with the molten metal assume a grey colour. The higher the temperature of the bronze the thicker is the grey layer.

This applies to many of the Anyang fragments, and not only to those which lack »joints« but to others as well. On the fragments which were red throughout, the grey is very noticeable. On many of the grey fragments the »skin« appears as a slight darkening of the grey.

As such a change would never have occurred had the moulds been used for wax casts this must be regarded as positive proof that such was not the case.

2. A fragment of bronze appears in a narrow incision on one of the moulds. The presence of this fragment is not difficult to account for.

It is often a practice in modern casting to remove the mould from a bronze very soon after the casting. If the bronze were allowed to remain in a mould of strong material, shearing stresses would set up which might endanger the cast and cause cracks. There is another reason as well. During the casting process a skin forms on the mould which under certain unfavourable circumstances might attain a thickness of about half a millimetre. The skin occasionally attaches itself to the cast, and a certain amount of labour is needed to remove it. This will never happen if the mould is removed immediately after the casting.

Everyone who has practised bronze casting must know that redhot bronze is very brittle. If a mould were to be removed before the bronze has attained sufficient strength fragments might break off. This is what probably happened in this case.

3. On many of the fragments there are traces and patches of soot. This substance only occurs on the inner surface and on some of the »joints» but never on the outside. Therefore it cannot have been produced during the baking process but must have been applied intentionally after the hardening of the moulds.

The direct method of casting as practised today often employs soot to facilitate the removal of mould sections. A mould intended for a wax cast would not be treated in such a manner since soot is unsuitable as a means of insulation where wax is concerned.

4. The moulds are, with the exception of the innermost layer, extremely porous. The pores vary considerably in shape, some being most irregular, others elongated. The elongated pores generally run in the same direction. The irregularities of the pores indicate that the porosity was produced intentionally. They were apparently obtained by mixing small particles of some organic substance with the clay. With the particles a certain amount of air followed. When the plastic clay was pressed against the model the air bubbles obtained their oblong shape. During the baking process the organic matter was consumed, leaving irregular cavities.

We have already mentioned that porosity is one of the requisites for a mould intended for bronze casting. It is however not called for in a mould for a wax model.

The evidences given above prove conclusively that the moulds were used for the casting of bronze. It does not necessarily follow however that they were used in the direct method. There is also the possibility that they were used in the *cire perdue* method, the sections being formed round a wax model which was melted out and replaced by molten bronze.

I am however of the opinion that this alternative is extremely unlikely for the following reason. It can be observed on many of the moulds that the majority of the ornamental details were not produced by moulding but were incised directly in the same. In other words, they were not produced by fashioning the moulds over a wax model.

SHAPES.

All the specimens are made of the same material, a clay rich in minute particles of quartz. They were baked to give them sufficient strength, and as a result of this process the material has in many instances changed colour. Some are red except for a thin grey skin on the inner surface, others bluish grey, and others again red on the outer surface and grey on the inner.

On most of the fragments (123 out of 170) there are the remains of one or more ›joints‹, smooth and even surfaces generally perpendicular to the inner surface of the mould. The presence of such ›joints‹ indicates that the moulds were built up of sections. The specimens which lack ›joints‹ are generally from moulds for large vessels and the ornamental details found on them are such as would not be expected to occur in close proximity to any ›joint‹. It is therefore highly probable that these fragments belong to piece moulds as well.

The ›joints‹ are provided with pyramid-shaped tenons and mortices to ensure a steady connection.

On the great majority of the fragments the outside has been left unfinished, the surface being rough and uneven and even showing prints of the fingers which moulded them. Eleven specimens have however received a smooth outside finish. Although some of them form almost complete sections they are quite small and much thinner than the others. The tenons are also placed differently occurring on the outside only. It is obvious that they were inserted in an outer shell.

This type of mould is still employed in cases where the pattern is too intricate to allow the withdrawal of mould sections of the ordinary type. Two of the eleven specimens may have been used for such a reason. Of the remaining nine, eight are from the middle section of Ku moulds. As we know of many bronze Ku from Anyang which are only adorned with ornaments on the middle part we can but conclude that the fragments belong to moulds for vessels of such plain types. As the mouth and foot both lack ornaments an outer mould composed of two parts only would have been sufficient.

The advantage in using such a type of mould in the direct process is obvious. The decorated sections would probably only survive one, or at the most two, castings. The plain sections on the other hand could be used repeatedly. The renewal of the mould would then be confined to the small decorated sections only.

Some of the specimens still retain certain characteristic features and shapes, which render it possible to determine the type of vessel for which the moulds were intended. Others are so fragmentary that it has been impossible to identify them from their shapes. All we can say is that they were intended for large vessels with rounded bodies. The majority were probably from Ting, Li, Yu, and Hu moulds.

The list of moulds given below will afford the reader an idea of the variety of shapes represented.

Type of vessel.	Number of fragments.	Number of moulds represented
Chüeh	20	at least 15
Ku	39	» » 24
Ting	2	2
square Ting	2	2
Chih	2	2
Tsun	2	2
I	2	1
Chia	1	1
Hu	1	1
Lei	1	1
legs	5	3
handles	1	
knobs	1	
knives	1	1
unidentified	90	at least 30
Total 170 pieces		at least 85 moulds

Some of the figures in the last column are somewhat misleading. This is specially the case with the many specimens we have been unable to identify. On a number of them the ornaments are so worn that they cannot be made out and on others they are quite fragmentary. In a number of cases it has consequently been impossible to determine which fragments belong to one another. In such doubtful cases they have not been included in the last column. Therefore we have been very conservative in estimating the total number of moulds.

Chüeh and Ku moulds are the most numerous in the collection, and this is not surprising when we consider that amongst the many types of bronze vessels which have been found at Anyang these two are the most common.

Almost complete sections of Chüeh moulds have been recovered and we have therefore obtained a good idea of how this type of mould was constructed. The upper sections extended from the top of the vessel to a line slightly below the base of the three legs. There were five sections in all. Four might almost be described as quarter sections. They meet along the main axes of the vessel. The two which

included the handle did not meet exactly along the middle of it but slightly to one side. We have seen a bronze Chüeh from Anyang in which the ›seam› on the handle was faintly visible and it was not in the centre. The fifth section of the mould was quite small. It formed the inner casing for the handle and also corresponded to that part of the vessel which is beneath the handle and where inscriptions generally occur. The top was flat and provided with tenons, two to each section. These tenons could only have served one purpose viz. as anchor for the core. Although no core has been preserved it is obvious that it must have been in one piece. It was provided with mortices and possibly with guides as well. and when in position it was suspended from the rim and tied down.

The height to which the bronze was poured is marked by a fine, incised groove. There is another groove below this one and parallel to it. The distance between the two grooves corresponds to the thickness of the walls of the vessel.

Each vertical ›joint› is provided with either three tenons or three mortices. The lower ›joint› on each section is not horizontal but has a slight inward slope and is morticed.

Unfortunately not a single fragment of a lower section has been recovered. possibly for the reason that they lacked ornaments and would therefore be considered valueless by the finders of the moulds. It is quite evident however that the legs cannot have been cast separate from the vessel and then riveted on, as was once suggested. The presence of the uppermost part of the three legs on the upper section disproves this.

Professor Yetts has already² dealt to some extent with the mode of fashioning the moulds, but the material we have been studying has thrown some new light on the subject.

A model of the object to be cast was first fashioned of some easily worked material such as clay. Whether the surface of the model was left severely plain it is impossible to say, but we venture to suggest that the patterns or the more characteristic parts of them were outlined, either by extremely shallow incisions or by moulding on such details as eyeballs and vertical ribs. This would enable the artisan who was to embellish the moulds to achieve a symmetrical design.

After the completion of the model the sectional pieces for the mould were fashioned round it. The morticed parts were first moulded and the mortices carved out of the ›joints›. They were then removed and the tenoned pieces fashioned. The tenons were easily obtained by pressing the ›joint› against that of the morticed piece. The question of applying the ornaments to the mould sections will be dealt with in the following chapter. After the completion of the sections they were assembled, tied together with string and baked in order to give them sufficient strength.

² In The Catalogue of the George Eumorfopoulos Collection of Chinese and Korean Bronze. Vol. I. pages 34—39.

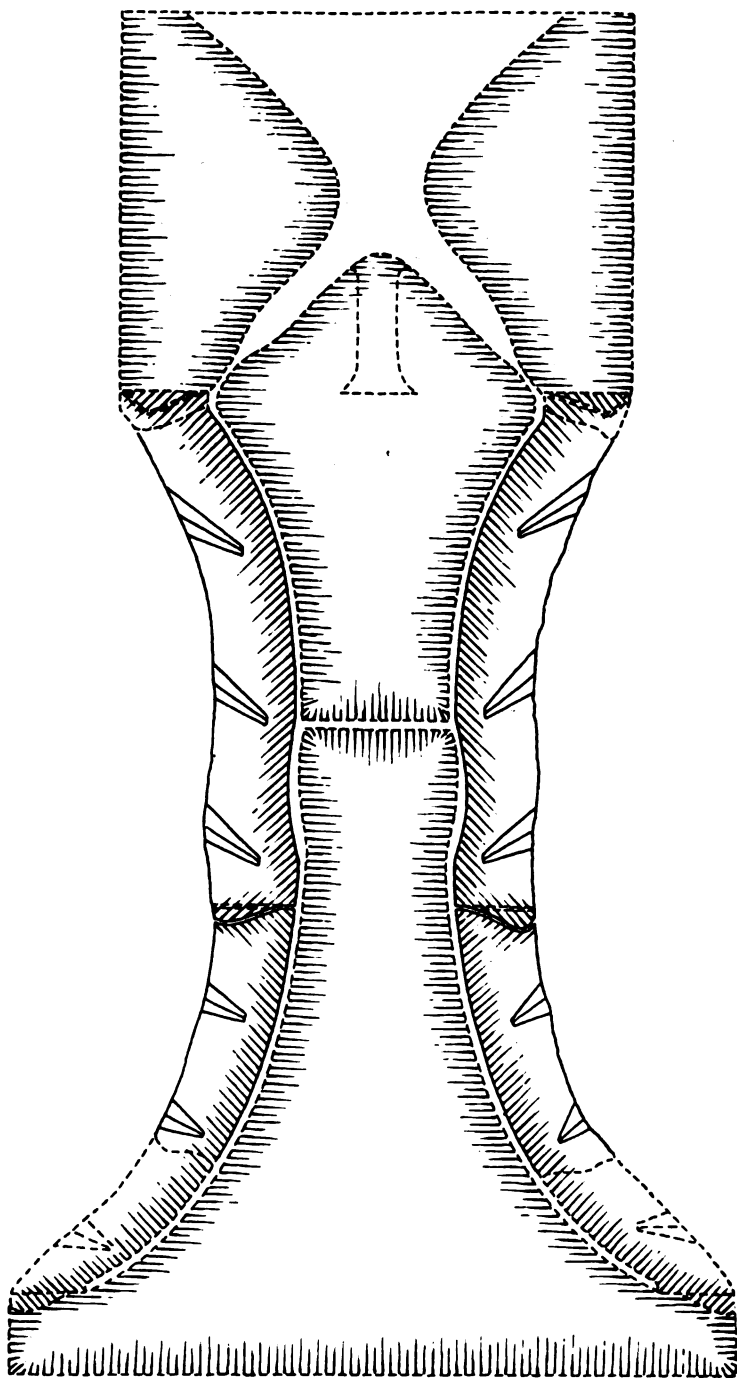


Fig. 1. Vertical section through reconstructed mould for Ku vase. Dotted lines indicate reconstructed parts. $\frac{1}{4}$ of nat. size.

The collection contains many fragments of Ku moulds, some of which are almost complete sections. Sufficient material has been preserved to enable us to visualize the complete mould. It was composed of eight sections, four upper and four lower, as well as two cores. The upper section covered the flaring mouth and extended from the top of the vessel to the base of the mouth. The lower sections embraced the middle part as well as the foot. The sections were morticed together by means of wedge-shaped tenons and mortices. The upper core was anchored to the mould through tenons on the latter, and the lower core was likewise secured. Probably there were other means as well of holding the cores in position, although the fragments show no traces thereof.

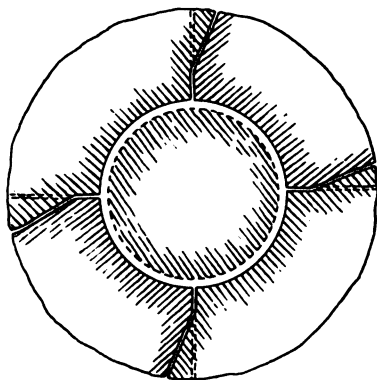


Fig. 2. Cross section through reconstructed mould for Ku vase. $\frac{1}{2}$ of nat. size.

There is in our possession a bronze Ku from Anyang which might well have emanated from the same factory as the moulds. The middle portion as well as the foot are covered with ornaments which are very similar to those on the moulds. The foot lacks the vertical ribs that are common on vessels of this type, and on the middle portion there are two ribs only, and they are rudimentary. The flaring mouth is quite plain.

The vertical joints (»seams») of the four sections of the mould are plainly visible on the decorated part of the foot. On the middle portion there are only two opposing »seams», the vertical ribs having absorbed the other two. On the mouth the »seams» have been completely effaced, and this is also the case with the two plain, narrow, encircling bands which serve to set off the three parts of the ku.

The majority of the bronze ku which we have examined have a more elaborate design than the vessel just described. The foot as well as the middle section is adorned with fairly broad, vertical ribs, and the mouth embellished with four narrow, pointed leaves extending from the base of the mouth to the top. On the lower part of the vessel all traces of »seams» have been removed. Such »seams» would only occur along the middle of each vertical rib and could easily have been effaced by whatever process it was by which the bronze had been cast. On

the upper part ›seams‹ are present, but only two. This seems to indicate that the mould was composed of two sections only. However, a careful study of the vessel and the intricate patterns soon made it clear that this could not have been the case. A semi-circular mould could not possibly be removed from a bronze cast without destruction to the mould. Neither could it be taken away intact from a wax cast without hopelessly ruining the ornaments on the latter. It could not be pulled off sideways or lowered. In either case the extremely thin walls by which the design was carried out in the wax, and which run both vertically and horizontally, would have broken off. It could only be accomplished by smashing the mould, but then the advantage of a piece mould would have been lost. A mould composed of four sections must have been used, and the many fragments of moulds we have studied bear this out. It should be noted that some of the fragments carry the leaf-like pattern described above.



Fig. 3.

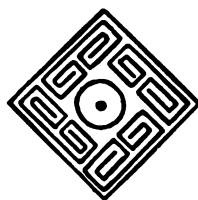


Fig. 4.

The absence of two of the ›seams‹ might be accounted for in the following manner. After the completion of the four sections two and two were joined together by some binding material. The joints were filled with clay or some such material, and the design retouched. The two halves were now assembled, the core inserted and the mould was ready for the casting. After the completion of the casting the four sections would no doubt easily have broken apart.

As only fractions of moulds for other types of vessels have been recovered, they are of very little help in trying to visualize the moulds. Here we must go to the finished bronzes to work out this problem.

A study of a bronze tripod proved quite illuminating. On this type of vessel it is generally impossible to detect more than three ›seams‹. These are generally centred over the legs. This would lead one to the conclusion that the moulds were in three sections. There is, however, in the Musée du Louvre a tripod which proves that the moulds were composed of six parts. It is of the ting type and is ornamented solely with incised designs. The patterns are arranged in two encircling zones. The upper zone is narrow and composed of a band of rounded leiwen. The lower zone is an all-over diaper pattern. The design within each square of the meshwork is composed of a central ring and rectilinear spirals. The incisions have been carried out with exceptional skill and precision, but nevertheless disfiguring ›seams‹ are present, one over each leg. The pattern is so arranged that each ›seam‹ cuts diagonally across two of the squares. These particular squares differ in design from the adjacent ones. Figs. 3 and 4 are

intended to illustrate this point. It is obvious that this change in the pattern was occasioned by a desire to minimize the interference of the ›seams›.

A careful scrutiny of a photograph of the bronze in question reveals the fact that the pattern on the two squares which lie equidistant from two of the ›seams› is identical with those shown in fig. 3. The effacing of a ›seam› at this point proves conclusively the use of a six piece mould.

The method adopted for the Ting moulds must therefore have been the same as for the Ku moulds. The sections were joined together two and two, and the pattern along the ›seams› retouched. It would have been impossible on account of the shape to join all the sections in a similar manner and still insert the core. For the upper part of vessels of the Li type moulds with six sections must have been used. For other types, such as the flat Hu and the rounded I with two handles, four were probably employed.

Fragments of moulds for cylindrical legs enable us to state that they were made up of three parts. The ›joints› were vertical, and they were morticed together in the usual way.

There is also a part of a mould for a loop handle, which indicates how handle moulds were constructed. The fragment formed an integral part of the mould for the body. The outline follows more or less that of the handle, is smoothly finished, and provided with tenons. The contours of the handle are outlined on the inner side with finely engraved lines. The specimen therefore formed the back of the mould, and that part which contained the cavity must have constituted part of the core.

Finally we have the complete mould for the top of one of those pins which are always present on the Chüeh and Chia types of vessels. It is more or less cylindrical in shape and hollowed out. The outside is perfectly smooth and it is therefore obvious that it was placed inside another mould.

ORNAMENTATION.

The moulds are decorated with early, more or less intricate ornaments, and have retained sufficient details to warrant study and comparison with Anyang bronzes. Perhaps the study of them can best be approached by classifying the various designs employed. It is to be noted that our classification applies to moulds, and only in certain cases to the finished product, the bronze vessels.

A. Pl. I and II. The ornaments, with the exception of the eyes and a small circular pattern, were incised with a pointed graver on a even surface. The incisions are uniform in depth and extremely fine, not measuring more than a fraction of a millimeter in width. The partitions are of equal width, about 1 mm., and occupy by far the greater portion of the decorated areas.

This class is the most numerously represented, comprising 64 out of the 170 specimens. Fragments of Chüeh and Ku moulds predominate. There are 14 of

the former from at least 11 different moulds, and 30 of the latter. Of these at least 18 are from different moulds. Two Chih moulds are also represented as well as one Chia. The rest we have been unable to identify.

Most of the Chüeh and Ku moulds are decorated with the same type of pattern. An eye occupies a central position and the rest of the surface is filled with spirals, generally with many windings. On some of the Ku moulds we also find narrow bands with single rows of tiny circular impressions. They were produced by some such implement as a cut-off quill.

Two types of eyes occur. One has an oval-shaped eyeball with a horizontal slit. The other type of eyeball is hemispherical or cone-shaped. In both, the inner canthus is flat and beak-shaped and the outer a rudimentary triangle. As the eyeballs form deep impressions they were probably produced while the mould was still fairly plastic. We are therefore of the opinion that they were present on the model and reproduced in the mould while the sections were being formed round them.

On the Chüeh moulds the eye is of the oval type. On the Ku, on the other hand, both types occur.

The spirals vary considerably in shape. Some are rectangular with either pointed or rounded corners, others are oval-shaped, and others again long and narrow. On most of the fragments they form independent patterns and are in no way related to the eye. It would therefore seem as if this particular pattern cannot be interpreted as a highly stylized t'ao t'ieh mask.

All the Chüeh moulds lack the vertical ribs that are common on bronze vessels of this type, and only two of the Ku moulds possess such embellishments.

We cannot recollect having seen a single Anyang bronze Chüeh with this type of design. Several bronze Ku are however known to us with almost identical pattern. One is reproduced in pl. 31 of *Altchinesische Bronzen* by E. A. Voretzsch.

We have in a preceding chapter mentioned small mould sections which were inserted in outer moulds. They formed the middle section of Ku moulds and are embellished with the type of pattern described above. The type of Ku they represent must have been rather plain, the mouth as well as the foot lacking ornaments. This is not uncommon in China, a number of such vessels having been unearthed at Anyang. A good example of this class of Ku is reproduced in pl. 56, vol. 1 of *Shina-Kodō Seikwa* by S. Umehara.

A small Ku fragment carries an ear and a crest amongst the spirals. We may therefore conclude that it was embellished with a highly conventionalized t'ao t'ieh mask.

The few fragments from the upper sections of Ku moulds which were acquired are embellished with the pointed leaf-pattern so common on vessels of this type.

Other moulds are decorated with more elaborate designs. A fragment of a Chih carries a kuei dragon. It is placed vertically with head down. It is of a somewhat

advanced type, the horn being separated from the head. A small fragment, which in all probability belonged to a Chüeh, is embellished with a kuei bird of a type met with on bronze vessels from Anyang.

An all-over diaper pattern also occurs. The lozenges which form the pattern enclose rectilinear spirals. (Fig. 5.)

B. Pl. III, 4, 5. Pl. IV, 5, 6. Pl. V, 3. Pl. VII, 4. The ornaments, with the exception of eyes and a small circular pattern, were incised on an even surface. On the majority of the moulds two kinds of gravers were used, one sharply pointed, the other broad. The broad incisions are often bordered by deeper, narrow ones. The partitions vary in width and are rather narrow. They occupy the greater portion of the decorated areas. The eyes are of the same shape as those within the A-group and were reproduced in the manner already described.

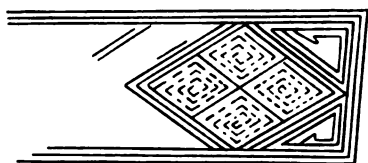


Fig. 5.

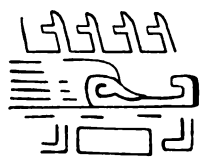


Fig. 6.

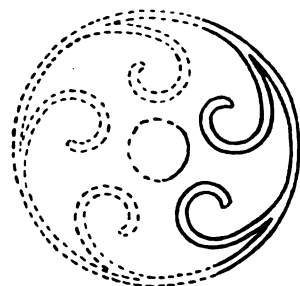


Fig. 7.

The group contains 27 fragments from at least 17 different moulds. Of these 3 belong to Chüeh moulds, 2 to Ku, 2 to Ting, 1 to I-lu, and 1 to Hu.

The spirals are of the same types as in the preceding group. Other types of patterns more or less geometrical in character also occur and are enumerated below.

A T-shaped pattern with an oblique downward stroke occurs as independent ornament.

A T-shaped pattern with the horizontal stroke ending in spirals. It probably formed part of an animal design.

A curved pike-like pattern with transversal, pointed projections occurs either singly or is repeated so as to form antlers. (Fig. 6.)

A circular ring-shaped pattern.

Several zoomorphic elements are also present such as eyes, Z-shaped eyebrows (pl. IV, 5), a mushroom-shaped horn (pl. III, 5), the tail of a dragon or bird (pl. IV, 6), and the head of a dragon (pl. V, 3).

Many bronze vessels found at Anyang have been executed in this style, particularly of the types Chüeh, Ku, and Ting. The Museum of Far Eastern Antiquities possesses several specimens, not yet reproduced.

C. Pl. III, 2, 3. Pl. IV, 1—4, 7. Pl. VII, 2. The ornaments were incised on an even surface. The incisions vary considerably in width. Extremely fine

lines occur as well as very broad ones. The broad lines and spaces are generally bordered by very narrow incisions. The partitions are quite narrow and occupy by far the smaller percentage of the decorated area.

The moulds are mostly for vessels of large proportions. The number of specimens is 30, from at least 11 different moulds. Owing to the very fragmentary state of the moulds it has been impossible to classify them according to types of vessels.

The following types of geometrical patterns are represented:

Spirals with pointed corners.

Double spirals with pointed corners.

Hooks ending in spirals with pointed corners.

A T-shaped figure with downward-slanting stroke and the horizontal stroke ending in spirals.

A circular ornament with hooks projecting from the periphery towards the centre (Fig. 7).

The zoomorphic patterns are mainly composed of eyes with oval-shaped or hemispherical eyeballs and beak-shaped inner canthus.

One fragment, pl. IV, 1, which was enclosed within an outer mould, is embellished with a pair of horns and the half of an eyeball. A similar pattern occurs as part of an animal mask in high-rounded relief on the shoulders of a Tsun. The vessel is owned by Messrs. Yamanaka & Co. and reproduced in pl. 32, vol. 1 of *Shina-Kodō Seikwa* by S. Umehara. The mould was probably for some such mask, possibly from a Tsun or a Lei. It must have been of imposing dimensions to judge from the size of the mould fragment of this detail.

The fragments are generally so small that no complete pattern has been preserved. The presence of eyes and other zoomorphic patterns indicates that they were embellished with dragons or t'ao t'ieh heads. Some of them might well have been used for Ting or Li bronzes embellished with t'ao t'ieh masks, one above each leg.

D. Pl. III, 1. This type is represented by one small fragment only. The main design on the complete mould must have represented a t'ao t'ieh mask and occupied fairly large sunken spaces. The bottom of the sunken areas was flat except for minute incised spirals. Each detail of the mask, such as an ear or an eyebrow, occupied a sunken space by itself and was surrounded by raised areas. The raised areas were also embellished with spirals similar to those on the sunken spaces.

Many bronze vessels bearing this type of ornaments have been unearthed at Anyang. They are characterized by a wonderful precision of ornamental detail. Some beautiful specimens were found close to Wu-kuan Tsun, a village north of Hsiao-t'un. Ting, Chüeh, Ku, and I-lu were represented. There is a good example of this type of design reproduced on page 30 in *Maandblad voor Beeldende*

Kunsten, Jan. 1935. Another example may be seen in pl. 31, vol. I of *Shina-Kodō Seikwa*.

E. Pl. V, 1, 2, 4, 5. Pl. VI, 2—4. Both raised and sunken main ornaments occur, all with slightly rounded surface. The main patterns are generally embellished with curves incised with a pointed graver.

There are 11 specimens from 9 different moulds. 3 Ku, 2 Tsun and 1 Lei are represented.

The geometrical patterns are composed of spirals and hooks as well as flutings. The latter pattern occurs on several bronze vessels with otherwise very complicated ornaments. We find it on a Yu from the Tuan Fang tael set, and it also occurs on the base for a wine ewer. The pattern on this base is identical with that on pl. VI, 2. It is reproduced in pl. 147. Vol. II of *Shina-Kodō Seikwa*.



Fig. 8

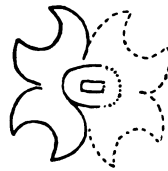


Fig. 9.

Amongst zoomorphic patterns there is observable in pl. VI, 4 the complete figure of a dragon. We have seen several bronze vessels decorated with a similar pattern, as well as implements such as dagger-axes with broad blades, and knives.

The peculiar pattern seen in fig. 2, pl. V occurs on a Tsun in the Buckingham Collection of the Art Institute of Chicago and is reproduced in pl. 16, vol. I of *Shina-Kodō Seikwa*. The pattern represents a highly stylized animal with a long crest and a long tail which is curled round under the body.

F. Pl. VI, 1. Ornaments were incised with a broad graver. Spirals or other finely engraved curves do not occur. The group is only represented by two specimens. On one we find the hind quarters of two dragons tail to tail. The other is embellished with a dragon-like creature with head turned back.

Other types of patterns occur on many of the fragments, but we have been unable to group them under any of the above headings owing to the worn state of the surface.

On moulds for Ting legs we find a triangular pattern generally present on bronze legs.

One small fragment carries an eye of a peculiar shape. The eyeball is rectangular with rounded corners, and from each corner a crescent-shaped pattern projects (Fig. 9). A comma-like pattern also occurs (Fig. 8).

Finally, the cikada pattern which is so common on bronzes from Anyang, apparently occurs on the lower part of a Ting mould. The surface is, however, so worn that it is very difficult to recognize the ornamental details.

CONCLUSIONS.

In a previous chapter we have estimated the number of moulds represented in the collection at 85 at least, but we have also pointed out that our estimate must be regarded as quite conservative.

The fragments that have been recovered form a very small percentage of the material required to complete the 85 moulds, probably not more than 2 or 3 per cent. This indicates that what has been unearthed constitutes a mere fraction of the total number of mould discards from the factory. The output of bronze vessels must therefore have been far in excess of our estimate.

Many of the vessels that were cast in the moulds we have discussed were of fairly small dimensions and embellished with rather plain designs. Others however must have been of imposing size and covered with the beautifully carved designs with which we are familiar through finds of vessels at Anyang.

Do not the magnitude of the output and the magnificence of many of the vessels suggest the probability that the factory was in operation when Yin-hsü or Anyang was at the height of its cultural development? We believe so, and we are therefore of the opinion that the moulds must date back to the Yin dynasty.

The factory may of course have been in operation for a considerable length of time. It is not at all improbable therefore that carefully conducted excavations on the site where these moulds were discovered might establish a comparative chronology of the patterns found on the Anyang bronzes.

PLATE I.

Fig. 1. (K. 12088: 29). Type A. Upper quarter section of Chüeh mould. The upper ›joint‹ flat and provided with a tenon. On the right ›joint‹ three tenons. On the left only one is left. The lower ›joint‹ slopes inwards and is provided with two mortices. The outside is rough and unfinished and carries the imprints of the cords by which the sections were held together during the baking process. The ornaments are composed of an eye and spirals, the latter produced by means of a pointed graver. The decorated part of the surface is much worn and the partitions are broken off, some almost to the bottom of the incisions. The top of the handle is in the shape of half a buffalo's head. Horn, eye, and nose are engraved. Colour: Red except for a thin grey skin on the inner surface. On the plain parts the skin is rather dark. On the decorated part it is a paler grey owing to the damaged condition of the ornamental details. On the plain parts there are traces of soot.

Fig. 2. (K. 12088: 40). Type A. Fragment of a quarter section from the middle part of a Ku mould. The back is slightly rounded, has a smooth finish and is provided with a transversal tenon. The upper and lower edges are rather sharp. The vertical ›joint‹ is smooth and has no tenon. It is an example of an ›inner‹ mould which was inserted in an outer casing. This outer casing or mould was

probably quite plain and must have extended from the top to the bottom of the Ku. The ornaments are composed of different types of spirals incised by means of a pointed graver. The surface is much worn. Only a few of the partitions remain more or less intact. It is of the same red colour as the previous piece and shows a dark grey skin on the inner surface.

Fig. 3. (K. 12088: 8). Type A. Fragment from a lower quarter section of a Ku mould. The pattern is composed of an ear, a crest and spirals, all incised with a pointed graver. The decorated surface is worn down. Colour: Red except for a thin grey skin on the inner surface. On the ›joint‹ traces of soot.

Fig. 4. (K. 12088: 17). Type A. Lower part of a lower quarter section of a Ku mould. The vertical ›joints‹ are smooth close to the inner surface but rather rough elsewhere. On the left ›joint‹ traces of a lost tenon. The ornaments consist of a central eye and spirals, the latter incised with a pointed graver. There are also two transversal bands, each embellished with a row of tiny circular impressions. The ornaments are much worn. Colour: Red except for a very thin grey skin on the inner surface.

PLATE II.

Fig. 1. (K. 12088: 9). Type A. Uppermost part of a lower quarter section of a Ku mould. It corresponds to the middle section of a Ku. On the upper ›joint‹ a tenon and on the right traces of one. The ornaments consist of an eye and spirals, the latter incised with a pointed graver. There are also two transversal bands each decorated with a row of circular impressions. The partitions that form the patterns are mostly gone. The colours are the same as on the preceding piece.

Fig. 2. (K. 12088: 51). Type A. Fragment of an upper section of a Chüeh mould. To the right a smooth ›joint‹. At the upper right corner part of the base of the spout. The pattern is composed of the upper part of a kuei bird with a long angular beak. The eye has no canthus and was incised with a pointed graver. The pattern is badly worn. Colour: The outer part red, the inner grey with a darker grey skin. The plain parts such as the spout and the ›joint‹ are partially covered with soot.

Fig. 3. (K. 12088: 49 a). Type A. From the upper part of a mould of small dimensions, perhaps a Chih. The top is flat. The ornaments, which are almost intact, consist of a deep vertical groove with slightly rounded bottom, and spirals incised with a pointed graver. Colour: Red, except for a very thin grey skin on the inner surface.

Fig. 4. (K. 12088: 52). Type A. Fragment possibly from a Chih mould. The curvature of the inner surface fairly sharp. On the left side a ›joint‹ with a tenon. At the ›joint‹ a ledge for a vertical rib. The ornamentation consists of the head of a kuei dragon in a vertical position. Spirals are also present. The ornaments were incised with a pointed graver and are badly worn. Colour: Grey throughout. On the ›joint‹ traces of soot.

Fig. 5. (K. 12088: 53). Type A. Small fragment of a mould for a large vessel. The ornaments consist of spirals incised with a pointed graver and a hemispherical depression. Colour: Grey throughout. Inner surface slightly darker, and with traces of soot.

Fig. 6. (K. 12088: 11). Type A. Part of the lower quarter section of a Ku mould. It is composed of part of the foot as well as a fraction of the body. On the right ›joint‹ two tenons, on the left one. The ornaments consist of an eye and spirals, the latter incised with a pointed graver. There are also two grooves for the ›bow-string‹ pattern. The ornaments are worn. Colour: Grey throughout.

Fig. 7. (K. 12088: 49, b). Type A. From a mould with fairly sharp curvature. To the right a ›joint‹. The ornaments consist of spirals incised with a pointed graver. Traces of circular rings are also present. Some of the spirals are almost intact, showing a curving upper surface. Colour: Mostly red. Inner surface grey. At the lower left corner the grey is extremely thin.

PLATE III.

Fig. 1. (K. 12088: 97). Type D. Small, flat fragment of a mould for a square or rectangular vessel. To the right a ledge for a vertical rib. As it forms an angle of about 135 degrees with the surface the fragment must be off a corner. The main pattern, which is probably zoomorphic in character, is sunk, having a level bottom except for the incised spirals. The raised portions are also embellished with spirals. The spirals were incised with a pointed graver. Colour: Grey throughout.

Fig. 2. (K. 12088: 122). Type C. Thick fragment with slightly curving inner surface. At the bottom a trace of a ›joint‹. The pattern is composed of the front part of a dragon. There is an eye visible close to the right edge, as well as certain ornamental details generally found on certain types of dragons. Several gravers were used, one of them being pointed. The surface is badly worn. Colour: Grey throughout.

Fig. 3. (K. 12088: 111). Type C. Fragment with slightly curving inner surface. On the extreme right traces of a vertical ›joint‹. Close to the ›joint‹ a ledge for a vertical rib having a depth of 9 mm. The pattern is composed of the head of a dragon and leiwen. Several gravers were used, one of them being pointed. The surface is badly worn. Colour: Grey throughout, inner surface slightly darker.

Fig. 4. (K. 12088: 50). Type B. Fragment from a mould with rounded inner surface and of large proportions. The ornaments consist of leiwen. Two kinds of gravers were used, one being pointed. Colour: Red except for the inner surface, which is grey.

Fig. 5. (K. 12088: 60). Type B. Part of upper quarter section of Chüeh mould. The top is flat and provided with a small tenon. On right ›joint‹ two tenons. The ornaments consist of spirals and an eye, above which are a mushroom-shaped

horn and a knife-like pattern. Two types of gravers were used, one being pointed. Colour: Red except for a thin grey skin on the inner surface.

PLATE IV.

Fig. 1. (K. 12088: 84). Type C. Fragment of an ›inner‹ mould probably for a Tsun or Lei. The inner surface in two planes, which form an obtuse angle along the median line. The back, top, and two sides smooth and even. Top and sides each provided with a long groove. The pattern is composed of a pair of horns and the half of an eye. It formed part of an animal mask in rounded relief, which probably adorned the shoulder of a Tsun or Lei. Grey throughout.

Fig. 2, 3, 4. (K. 12088: 127 f, b, a). Type C. Three fragments from the top of a mould of large proportions and with slight inner curvature. 3 and 4 are from adjacent sections, a tenon on the former fitting into a mortice on the latter. The tops are flat. The ornaments, which appear to be more or less symmetrical with regard to the ›joint‹, consist of spiral-shaped hooks in relief. Several kinds of gravers were used, including a pointed one. Colour: Red except for a thin dark-grey skin on undamaged parts of the inner surface.

Fig. 5. (K. 12088: 67). Type B. Fragment probably of upper quarter section of Chüeh mould. The ornaments consist of a Z-shaped eyebrow and leiwen. Two kinds of gravers used, one being pointed. Colour: Outer part mostly red; Inner part grey with inner surface slightly darker.

Fig. 6. (K. 12088: 124). Type B. Fragment of the lower quarter section of a Tsun mould. To the right a smooth ›joint‹. The ornaments are composed of leiwen and the tail of a dragon. Two kinds of gravers used, one being pointed. Colour: Grey on the outside, red and grey on the inside.

Fig. 7. (K. 12088: 112). Type C. Fragment with slight curvature from the upper part of a mould. The top is flat and smooth. Of the pattern little more than an eye remains. Several gravers were used, one being pointed. Colour: Red except for a very thin, dark-grey skin on the undamaged parts of the inner surface.

PLATE V.

Fig. 1, 2. (K. 12088: 123 b, a). Type E. Fragments of two opposing lower quarter sections of a Ku mould. The vertical ›joints‹ on both are provided with mortices. The main ornaments are engraved and have a rounded bottom. On no. 1 the ornamentation consists of the jaw of a t'ao t'ieh. On 2 it takes the form of a highly conventionalized animal with a long crest and a tail which curls round under the body. Leiwen are also present, incised with a pointed graver. Along the edges narrow bands with oblique flutings may be observed. Although they form an obtuse angle with the inner surface they cannot be regarded as vertical ribs. Colour: The outer surface red in spots, the rest all grey. On one of the joints are traces of soot.

Fig. 3. (K. 12088: 94). Type B. Fragment with a slightly curving surface and of a mould of large proportions. There is a horizontal ›joint‹ with a tenon. The pattern is composed of the head of a dragon. The contours are composed of deep and fairly broad incisions. Colour: Grey throughout.

Fig. 4. (K. 12088: 125). Type E. A fragment, with flat surface, probably of a large mould. On the right hand side a ›joint‹ with a tenon. At the joint there is a ledge for a vertical rib. The main design is composed of an eye and an eyebrow which would appear in rounded relief on the cast. Spirals and other curves are also present, and were incised with a pointed graver. Colour: Mostly grey. On decorated part traces of soot.

Fig. 5. (K. 12088: 118). Type E. Fragment, with slightly curving surface, of a mould of large proportions. There is an upper ›joint‹ with a tenon. The pattern is composed of eye, eyebrow, and ear. The eyebrow and ear are in rounded relief with incised contours and are embellished with lines incised with a pointed graver. The colour is grey throughout.

PLATE VI.

Fig. 1. (K. 12088: 100 a, b). Type F. Two fragments with slightly curving surface. The pattern is composed of the hind quarters of two dragons placed tail to tail. The ornaments are deeply incised, and with rounded edges. Colour: Red except for a dark-grey skin on the inner surface.

Fig. 2, 3. (K. 12088: 92 a, b). No. 2 possibly from the mould for a rectangular base for a vessel. No. 3 probably from a Yu or a Tsun mould. Colour: Partly red and partly grey.

Fig. 4. (K. 12088: 125). Type E. Upper part of a lower quarter section of a Ku mould. The upper ›joint‹ has a tenon, the vertical ›joints‹ two mortices each. The main design is composed of a dragon in a vertical position with head down. It is hollowed out in such a way that it would appear in rounded relief on a cast. The body is embellished with spirals and other types of curves, incised with a pointed graver. Colour grey. On one of the seams are traces of soot.

PLATE VII.

Fig. 1. (K. 12088, 95). The back to a mould for a Ting handle. The top and left ›joint‹ smooth and provided with tenons, one on each of them. In the outer incision and faintly visible in the illustration at the upper left corner there is a long fragment of bronze, which probably became detached from the vessel upon the removal of the mould. Colour: Red on the outside, grey on the inside.

Fig. 2. (K. 12088: 101). Fragment of a three-piece mould for a Ting or Li leg. Of the vertical ›joints‹ one still retains a tenon. The bottom is even and provided with a slit. The lines which formed the pattern were originally raised. They now

appear as slightly sunken. Colour: Red but for a grey skin on the inner surface. On the two ›joints› spaces covered with soot.

Fig. 3. (K. 12088: 110). Type C. Mould for knob to Chüeh or Chia. The outside surface is perfectly smooth, which indicates that it was inserted in an outer mould. The hooks seen in the illustration are in relief. Colour: One side red, the other grey. Inside grey.

Fig. 4. (K. 12088: 59). Type B. Small fragment with slightly rounded surface. The ornaments are composed of spirals and hooks incised with two kinds of gravers. Circular rings also occur. Colour: Grey with inner surface slightly darker.



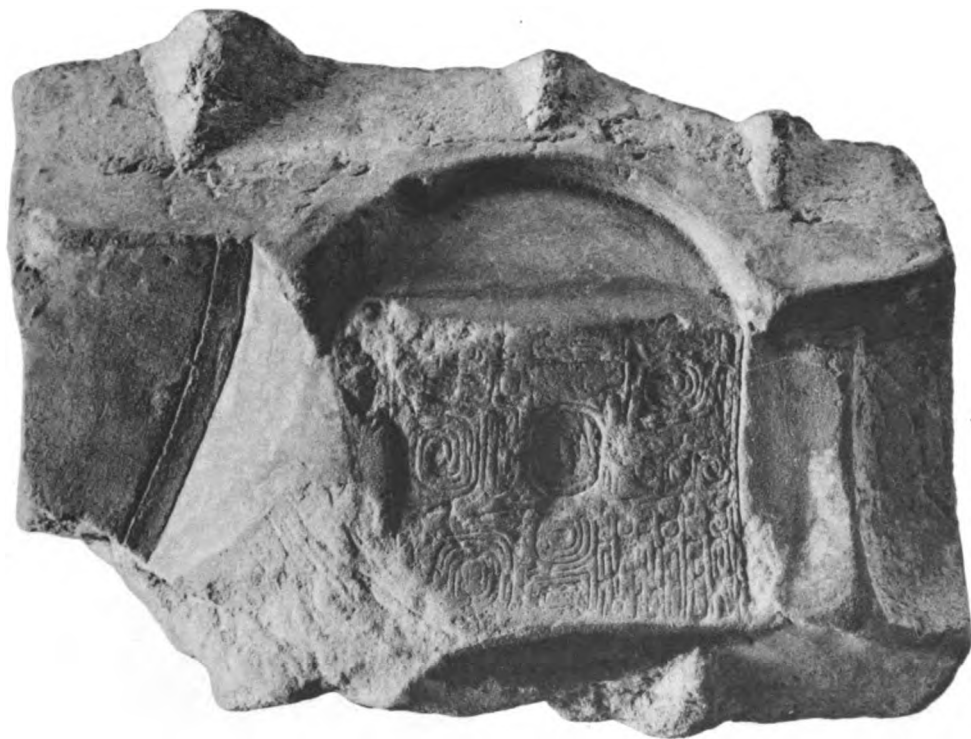
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ANYANG MARBLE SCULPTURES

BY

O. KARLBECK.

Within recent years Anyang has yielded many wonderful treasures apart from those discovered by members of the Academia Sinica. Anyang bronzes have attracted worldwide attention on account of their great beauty and their marvellous craftsmanship. Important collections of objects of jade and turquoise exist in China, and beautifully carved ivories and bones are far from uncommon. Marble sculptures have also been found there, but the finds have been few and far between and have for that reason received but scant attention.

The first Anyang marble sculptures to be brought to the notice of the Occident were collected by Lo Chen-yü and formed part of his famous collection of Anyang treasures. They were eventually acquired by the Museum of Far Eastern Antiquities. The majority are in a fragmentary state and are embellished with the heads of animals in rounded relief. Some of the more important specimens were reproduced by Sirén in *A History of Early Chinese Art*, vol. I, pl. 14 and 15, and later by Palmgren in *The Exhibition of Early Chinese Bronzes*, pl. 2 (B. M. F. E. A. vol. 6).

In 1928—29 members of the Academia Sinica unearthed at Hsiao-t'un a piece of sculpture which attracted much interest. It represented the lower part of a human figure in a sitting posture and was embellished with incised patterns of very early type. Some reproductions thereof appear in a plate facing page 250 of the second volume of *Preliminary Reports of Excavations at Anyang*.

In 1934 a number of interesting sculptures were brought to light at Anyang: some of which are described in this article.

The figure reproduced in pl. I, II, and III: 1 is the property of Mr. A. Hellström of Mölndal, Sweden. It was obtained at Anyang from a local dealer, who gave the information that it had been discovered south of the Huanho not far from the village of Hsiao-t'un.

It is of white marble and measures 15 cm. in length, 11.4 in width, and 7.3 in height. The figure has a perfectly flat bottom and rounded top and represents some monster with the head and front legs of a water-buffalo, the body being slightly reminiscent of that of a tortoise.

The head is badly decomposed, and some essential ornamental details have entirely disappeared. One of the horns is almost intact and is of the flat, hooked shape peculiar to the water-buffalo. A narrow groove under the horn represents

an eyebrow, but not a trace of the eyes remains. A faintly visible groove indicates that the nose was of the shape characteristic of cattle and buffaloes. The front of the head slopes inwards and carries the wide, open mouth. The lips are in the shape of narrow grooves and form an elongated pentagon with its apex under the nose. This shape of mouth occurs on a monster which forms the front part of the cover to a bronze vessel of Kuang type. It is reproduced in pl. XLII of Jörg Trübner: *Yu und Kuang*.

Two vertical grooves divide the mouth into three sections of about equal width. The outer sections are occupied by broad, pointed teeth, two to each section, which meet along inclined lines. The point of the upper tooth is close to the corner of the mouth and forms a loop, emphasized by a depression. A similar loop is present on the head of a monster serving as a cover to a bronze Kuang reproduced in pl. XLVI in the above mentioned work by Trübner.

A hole measuring 8 mm. in diameter has been drilled in the centre of the middle section. The hole extends horizontally for a distance of 7 cm. and meets another, inclined hole which has been drilled from the bottom.

Only one front leg is extant. The lower part of it is in a horizontal position and the upper part vertical. It is carried out in rounded relief and embellished with a T-shaped pattern, a spiral and other curves, all incised.

The body has a low vertical side and a domed top which projects slightly over the side. At the back is a short, pointed tail resembling that of a tortoise, and on either side of the tail there is a hind leg. The remainder of the side is embellished with T-shaped figures.

In the centre of the domed top there is a hemispherical depression with a diameter of 2.5 cm. The hole is in the centre of a leaf-like pattern of a shape very common in early Chinese bronzes. On either side of this pattern there is an ornamentation composed of a spiral in close proximity to the front leg, and a number of longitudinal grooves converging towards the tail and provided with hooks near the spiral. An almost identical pattern occurs as wings on early representations of birds. We find it, for instance, on a pair of birds in the round which crown the well known drum in the Sumitomo collection referred to below. It is also present on several bronze Yu shaped like a pair of owls back to back. The pattern on the marble sculpture must therefore be interpreted as a wing, however unlikely it may seem that it was intended as such.

The sculpture is an interesting example of one of those composite creations in early Chinese art in which naturalistic and highly conventionalized motifs have been combined to form a monster. It is interesting to note the presence of wings on a quadruped. They are of common occurrence in the art of the Han dynasty but appear to be extremely rare on archaic objects.

The sculpture was resting against a flat surface and was only held in position by its own weight. The hole from the mouth to the centre of the bottom can only have served as a conduit for water. It must have been conducted through a pipe

of some kind which fitted into one of the two holes. The significance of the depression on the top of the figure is obscure and probably unique. Whether the sculpture served as a fountain pure and simple or had a religious significance it is impossible to say.

It probably dates back to the Yin dynasty. This supposition is supported not only by the ornamental details but also by the history of the locality where it is supposed to have been unearthed.

Pl. IV: 1 shows the remains of a tripod of white marble, the property of the Museum of Far Eastern Antiquities (K. 12126).

It was acquired in Peiping from a dealer who informed me that he had obtained it at Anyang. As I have found the dealer's statements reliable and as I know that he paid frequent visits to Anyang I have no reason to doubt him.

The vessel is a Ting with Li characteristics and is of a type which Karlgren has termed Li-Ting. It measures 12 cm. in height. The thickness of the wall varies. It is thinnest at the neck, where it is only 6 mm., and attains a thickness at the base of the legs of 17 mm.

The legs are short, thick, and spreading. They are widest at the top and taper towards the foot, which is provided with a frontal swelling. If viewed from the side the swelling appears to end in a sharp, turned up point. In this respect it resembles the legs on a certain type of Ting. There the legs are in the shape of flat dragons, and the turned-up point constitutes the tip of the dragon's tail.

Along the back of each leg is a ridge, slightly narrower than the leg itself. It continues round the foot and envelopes the turned up point. The back of the ridge carries transversal grooves at regular intervals. They continue along the sides, where every other one is shaped like an irregular T. The incisions are identical with those which occur on vertical ribs adorning early bronze vessels.

The body has a bulbous contour with contracting neck and thick, projecting rim. The lower part is trefoil in section, the upper circular. One of the Li-Ting characteristics, viz. a trefoil division, has been carried out on the inside as well, the bottom being divided into three shallow, cup-like compartments formed by low, spreading ridges which meet in the centre and end half way up the sides. Only two of the ridges are more or less intact. On either side of each ridge there is a deep, crescent-shaped incision resembling the pictogram for the moon or the month as occurring on some Anyang oracle bones. The incisions are however not, like those on the bones, in a vertical position but almost horizontal with their convexities towards the rim. They are not placed symmetrically with regard to the ridges. Those to the left of each ridge are slightly higher than the right ones and almost touch the ridges, whereas the right incisions are a short distance away from them. They were apparently regarded as occurring in pairs but what they signify I do not know.

The lobe above each leg was once embellished with the figure of a fabulous being. Owing to the decomposition of large areas of the surface no complete

figure has been preserved. On two of the lobes however sufficient details remain to enable us to visualize the monster with a fair degree of accuracy. A drawing of the monster appears in fig. 1.

It is a creature with an enormous head on a small, squatting humanlike body. The head is provided with a pair of long, spreading antlers with several points, the outermost one resembling the horn of a buffalo. On the top of the head is a broad crest of a shape generally occurring on t'ao t'ieh heads. The mouth is wide and U-shaped, and the ears pointed. Below the mouth and occupying almost the entire front of the body there is one of those leaf-like patterns which is so common on early Chinese bronzes and which is generally regarded as a conventionalized



Fig. 1.

cicada. This interpretation is probably not correct. There is in the Malmö Museum a Ting tripod from Anyang which has the leaf-like pattern as well as cicadas of an early shape. This combination would probably not have occurred had the leaf-like pattern been derived from the cicada.

The arms are quite slender. The upper arms are held straight out. The fore-arms are turned downwards, and the long hands bent up. They end in two talon-like fingers. The lower extremities are distinctly human in shape and position, although each foot only carries four toes and these are reversed, the big toe occurring on the outside.

It is interesting to note the absence on the fore-head of the diamond-shaped marking which is a feature on most early heads.

The figure is in flat relief with mouth, nose, and the leaf-like pattern incised, and the eyes and eyebrows in relief. The tripod has been cut with great skill and precision, the surface being smooth and even and the curves having harmonious

proportions. Some fragments of carbonate of copper adhere to the bottom of one of the legs. The tripod must therefore have been in contact with some object of bronze.

Although the shape is probably unique in the realm of early Chinese art, a somewhat similar monster occurs on two other objects, one of bronze, the other of pottery.

One is the well known drum in the Sumitomo collection and referred to above. Good reproductions occur in: Sen-Oku Sei-Sho, pl. XL and fig. 10; Sirén, *A History of Early Chinese Art*, vol. I, pl. 50; and Umehara, *Étude sur la Poterie Blanche fouillée à la ruine de l'Ancienne Capitale des Yin*, pl. XLI.

The chief ornamentation on the side of the drum consists of a monster with a human head, a body of triangular shape related to the leaf-like pattern, and arms and legs in positions similar to those we have observed on the Li-Ting monster. The head is adorned with a pair of long horns curved into the shape of an inverted U, and between them and crowning the head is a tall crest of the same type as on the other monster. The upper arms are extended straight out, and the forearms are bent up and terminate in talons. The legs are in a squatting position, and the feet seem to be encased in shoes with many transversal grooves.

In the work by Umehara on the white Anyang ware, referred to above, reproductions are given in pl. XX, XXI, and XXIII of three fragments of the white Anyang ware, all of which seem to belong to one and the same vessel. Two of the fragments are in Japan and the third in the Museum of Far Eastern Antiquities. The most complete sherd is in Japan. The main pattern seems to represent a monster of the same type as that occurring on the Li-Ting, although in a very conventionalized form. A horizontal band round the shoulder is embellished with the head of the monster. It is highly stylized and carries a pair of long, spreading antlers reminiscent of those on the Li-Ting monster. On the body of the vessel, just below the head, there are a pair of arms which form a VVV-shaped pattern, and which terminate in talons. Below the arms is a very curious figure composed of three rectangles. It probably corresponds to the leaf-like pattern. The lower part of the vessel is unfortunately missing, but the VVV-shaped character of the patterns on the upper part indicates that a pair of legs were present and that they too must have been reproduced in a squatting position as in the monster on the drum.

The white Anyang ware is nowadays universally accepted as dating from the Yin dynasty. The figure forming the main design on the potsherds is highly stylized, whereas the Li-Ting monster can hardly be regarded as stylized at all. This suggests the probability that the latter is the earlier of the two. The extreme rarity of the motif has led me to believe that it could not have been current for any great length of time, and I am therefore of the opinion that the drum, which is regarded by the author of Sen-Oku Sei-Sho as late Chou, is very much

earlier and must in all probability be dated back to the Yin dynasty. The other patterns which adorn the drum support this supposition.

Amongst the Lo Chen-yü acquisitions there was a marble Li-Ting the source of origin of which has been somewhat of a puzzle. It is supposed to have been discovered at Anyang, and the find described above seems to corroborate this supposition. It is now the property of the Museum of Far Eastern Antiquities (K. 11004: 171) and is reproduced in pl. IV: 2.

It measures 11.4 cm. in height and is very similar in shape to the other tripod. There is however no projecting rim, and the legs, although of the same shape, lack



Fig. 2.

the ridge at the back. The lobe above each leg is adorned with a t'ao t'ieh head, which combines both feline and bovine features. The short, almost straight horns as well as the broad nose are those of the bull, whereas the long, slightly curved canines in the upper jaw are characteristic of members of the cat family such as the tiger. A drawing of the head is given in fig. 2.

The diamond-shaped marking on the forehead, which is a feature of most early heads, is present, as is also the crest between the horns. The latter is not of the conventional shape, however, but is executed in open-work and fills the interstices between the horns. The mouth is of a shape sometimes met with in masks adorning the earliest bronzes. The upper lip is drawn in full and W-shaped, and the corners are formed by hairpin bends. The lower »prongs» do not meet but are rather short and constitute a pair of lower lips viewed in profile. A long curve, which is concave with regard to the mask, extends from the tip of the lower lip to the junction between two lobes and represents the chin and the cheek of the t'ao t'ieh.

The fact that the lower lip is not shown in full although there was ample space to have reproduced it in such a manner indicates that the artisan must have had in mind one of those heads that is formed by two opposed dragons in profile. This again suggests the possibility that the t'ao t'ieh head might have originated from a pattern consisting of two opposed dragons.

On either side of the head there is an upright curve which ends in two spirals. This pattern is probably intended to represent a dragon in a vertical position and with the head down. Dragons in similar positions are very common on bronze vessels of the Li-Ting type.

The ornaments are all incised. The workmanship is fairly good but inferior to that of the other tripod. The vessel is badly decomposed and has been repaired in many places. The interior shows patches of a red pigment but whether this pigment was there originally or is a late addition it is difficult to say.

As regards the date, it is probably from the Yin dynasty, and, to judge from the shape of the mouth, earlier than many bronze vessels attributed to the same dynasty. As the shapes of the two Li-Ting have much in common with vessels of bronze they were probably made as substitutes for such vessels.

Pl. III: 2 represents a mushroom-shaped horn of white marble measuring 3.7 cm. in length. It is the property of the M. F. E. A. (K. 11301). It was presented by a Chinese dealer and is one of a pair supposed to have been found at Anyang together with two very large horns of similar shape but with somewhat more elaborate ornamentation.

It is oval in section with the back slightly flattened. At the base there is a short pin, which fitted into the head of the animal or monster of which it formed a part. The top is in the shape of a projecting cap. The stem is embellished with an encircling band and an incised W-shaped pattern composed of double lines, and on the broad, oval-shaped base there is an indistinct spiral.

One of the larger horns which I had an opportunity to examine in Peiping had a length of 28.2 cm. It had the same shape as the small horn, and was provided at the bottom with a rectangular tenon. The ornamentation on the neck and the base was also similar but the cap was embellished as well, having a pattern composed of a circular groove, from which four hooks projected obliquely towards the centre.

The horns are very similar to a pair which adorns the head of a dragon carved out of an antler. This sculpture was discovered at Anyang and is generally regarded as Yin. It belongs to the British Museum and has been reproduced by Yetts in pl. VI and VII in the July 1933 number of *The Journal of the Royal Asiatic Society*. The shape of the horns on this antler is quite similar to that of the marble horn, and the ornamentation identically the same.

Other pairs of similar horns occur on three masks which form the main design on a bronze tripod of Li type in the Hellström collection. The horns are in high

rounded relief and have a swelling at the base. Each of them is embellished with a band and a V-shaped pattern on the stem, and a spiral on the base.

Horns of similar shape but with slightly different patterns occur on many early vessels as well as on early animal representations in jade and turquoise. The base is generally adorned with two spirals instead of one, and the V-shaped pattern is often missing.

The mushroom-shaped horn is not confined to one class of animal only. Dragons with arched bodies adorning the sides of bronze vessels occasionally carry such horns. It is interesting to note that pictograms of dragons of similar shape and with the same type of horn occur on oracle bones from Anyang. One is reproduced in Chia Ku Wen Pien, section II, page 15, and in Chia Ku Hsüeh, section II, page 9. The horn is fairly common on vessels of Yu type, where it occurs on animal heads which terminate the arched handle. We also find it on the heads of monsters which form the covers to vessels of Kuang type, and it even occurs on monsters with snake-like, coiled-up bodies.

It is therefore impossible to determine to what kind of animal the marble horn belonged. It is also rather difficult to understand why the small horn which we have reproduced should have been carved separately from the body, unless the latter was made of a different material.

The occurrence of this type of horn on a Yin bone as well as the locality where the horns were discovered suggest Yin as the period when they were made.

The sculpture represented in pl. III: 3 has a length of 9 cm. and a thickness of 2 cm. and belongs to the M. F. E. A. (K. 12028). It was obtained together with the fragmentary marble Li-Ting and is supposed to have been found at Anyang. The bottom and the straight side are flat, and the top is embellished with ornaments, partly in relief and partly incised, which form the left side of a t'ao t'ieh head. The eye is incised and of a shape occasionally appearing on early bronzes. Of the nose only the left nostril is preserved. It is at the bottom of the sculpture. The mouth is marked by a comma-like incision, and the lower lip is shaped like the beak of a bird. The peculiar hook-like pattern which is combined with a spiral and appears between the eye and the nose probably represents a type of ornament which is common on early t'ao t'ieh heads but which generally appears above the eyes and represents the crest.

The upper part of the sculpture is unfortunately missing. It is therefore impossible to determine the exact shape of the horn. The little that remains of it is however sufficient to enable us to make a guess, and I do not think that we are far wrong if we assume that it was shaped like the horn of a bull or a buffalo.

The fact that there are no means of attachment and that the back is flat and plain indicates that the sculpture originally occupied a horizontal or inclined position. It is therefore likely that it served as an architectural detail.

The straight unadorned side proves that it was joined to another piece viz. the central part of a t'ao t'ieh head. It is rather strange that the head was not

rved all in one piece. This can be accounted for in several ways. The central part might for instance have formed a high ridge in imitation of the vertical ridges occurring on bronze vessels.

The fact that the specimen was unearthed at Anyang and the probability that it served as an architectural detail seem to indicate that it dates back to the Yin dynasty. The highly stylized shape of the mouth would lead one to believe that it is later than the Li-Ting shown in pl. IV: 2.





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LOU-LAN WOOD-CARVINGS AND SMALL FINDS DISCOVERED BY SVEN HEDIN

BY

FOLKE BERGMAN.

A. INTRODUCTION.

Two thousand years ago Eastern Turkestan consisted of a series of small independent oasis-states, one of which was the kingdom of Lou-lan. It was situated around the lowest part of the Tarim river and its terminal lake Lop nor, a poor region composed mostly of deserts of sand, clay and salt.

The first time the name of Lou-lan¹ was mentioned in history was in B. C. 176, when Mao-tun, the Shan-yü or Khan of the Hiung-nu, sent to the Emperor of China, at that time residing at Ch'ang-an, a letter full of arrogance and declaring that among twenty-eight other states Lou-lan had submitted to the supremacy of the Khan.²

The Hiung-nu had thus performed their greatest known expansion previous to the big western drive that ultimately ended at the Catalaunian plains.

At that time (B. C. 176) the Chinese knew very little, if anything, about those Central Asian regions. It was not until after the return of the famous embassy of Chang Ch'ien about B. C. 125 that this ignorance was dispelled, and it did not take very long before a new era was inaugurated built up on a progressive policy and expanding trade. The political domination of what is now Eastern Turkestan was attained successively; firstly by driving the Hiung-nu out of north-western Kansu, Ho Ch'ü-ping's victorious battle of B. C. 121 marking the turning point in that part of the game, secondly by fortifying the exposed narrow corridor leading westward through Kansu, and, thirdly and lastly, by conquering and subjugating the many small states in the Tarim basin and keeping them quiet. This big westward trend and the conquering of vast territories was caused by the Chinese perceiving the special importance of the Tarim basin as a passage for their transit trade. And the key to the Tarim basin was the Lou-lan kingdom.

Thus, the last decades of the second century B. C. witnessed the beginning of the Chinese Central Asian expansion, and the different states of the Tarim basin had to submit to the Chinese Emperor. In the course of time the attitude of Lou-

¹ For the sake of convenience I retain this Chinese rendering of the name, though the Kharoshthi form *Kroraina* is probably closer to the indigenous name.

² De Groot: *Die Hunnen*, p. 76 f.

lan was obviously very unstable, its King being inclined to serve the Hiung-nu behind the backs of the Chinese; and as a final consequence of this the latter got rid of the King in the year B. C. 77. The capital of Lou-lan, the exact position of which is not identified, was removed from the northern side of the Lop nor region to its southern border, and the name of the kingdom was changed into Shan-shan.

Later on, when the Chinese found it necessary to station a military garrison on the northern side of Lop nor, the old name of Lou-lan was revived for its nomination, and that is the Lou-lan we propose to deal with here.

THE DISCOVERIES OF SVEN HEDIN.

Chance sometimes plays a prominent part in the making of scientific discoveries of lasting value. When this is said in connection with Sven Hedin's discovery of the ruins of Lou-lan in the very heart of Central Asia it does not imply any discredit either to the ingenious and indefatigable explorer or to the significance of the discovery. According to his own narrative it is evident that, when on his way from Altmish bulak to Kara koshun, it was more or less his »lucky star» that guided him on March 28th 1900 to this solitary place where once flourished a civilization. fascinating in its complexity but long since forgotten.

This is not the place at which to enter into details regarding the history of the exploration of the Lop nor region and the interesting geographical questions it has aroused. Dr. Hedin's discoveries, however, gave rise and impetus to extensive surveys in this region, both archaeological, geographical and geological, carried out by himself, several members of his later expeditions and other travellers. This has been described in many of Hedin's publications as well as in those of subsequent visitors.

Naturally Sven Hedin immediately perceived the extreme importance of finding proofs of a dead civilization in the middle of an actual desert. Through a fortunate incident he found out already at an early stage that the desert concealed ruins in more than one place. Circumstances at the time did not allow him to remain at the ruins, but the admirable feat remains that he at once made up his mind to return to this dreary place in the lonely clay desert, to fight once more those icy gales and tiresome sands and *yardangs* in order to extend his surveys of the remains of its ancient culture.

A renewed visit could not take place until next winter, when water in the shape of blocks of ice could be carried by camel into the waterless desert. Thus a year passed before he could continue his explorations of the ruins, and in order to do so he had radically to change his other plans. March 1901 saw him back, and on the 4th of that month he discovered the chief ruin: the military station of Lou-lan.

Before I proceed to deal with the objects found there I shall give a brief topographical description of the ruins (comprising only those discovered by Dr. Hedin)

starting from the north-western group. From there to the south-easternmost one there is a distance of 14 km., and the five groups of ancient structural remains are situated along a nearly straight line running N 60° W—S 60° E, probably indicating a road.

The first group consists of remains of eight scattered houses (see plan in Hedin: *Scient. Res.* II, Pl. 75, where, however, north and south have been interchanged). This place was found by the Turki servant Ördek already in March 1900 when he was looking for a forgotten spade; Dr. Hedin visited it on March 7th 1901. The houses marked B, C and D were best preserved and formed a compound, the central part of which had been a Buddhist shrine.

In 1906 Stein visited this place, which he calls L.B. I—III. (Plan of the three best preserved houses in *Serindia* III, Pl. 27.)

In the following pages I have preferred to use the designations given by Stein to distinguish the different ruins.

Hedin writes: »It was in this house (L. B. II) that we found not only the greatest quantity, but also the most beautiful, of the wood-carvings in the entire area of the ruins. — — — A few faint traces of red and white on some of the planks point to their having been painted as well.» Besides these ornamental wood-carvings, Buddhist reliefs and a sculpture, he mentions Chinese coins, many small earthenware cups and a wooden tablet with Kharoshthi script (reproduced in Conrady's *Taf.* (2) VI: 121 being the only one of its kind found by Hedin).

The *stupa*,¹ Pl. 74 in *Scient. Res.*, is situated 300 m. ESE of the temple.

The next group of ruins is situated 2.5 km. S 57° E from the one just described.² Stein has 1.6 km in S 68° E.³ It was on March 28th, 1900, that Hedin with the aid of his servants Chernov and Ördek found these two ruined houses. Amongst the ruins they picked up a number of wood-carvings, small sacrificial bowls or cups of clay, vast quantities of fragments of earthenware jugs and dishes, some iron axes, two or three Chinese copper coins, a sort of copper pin etc. Apparently only a part of the objects enumerated were brought home.

The western house was rather large (plan in *Scient. Res.* Pl. 67, the inset. Here, too, north and south are interchanged. See also Fig. 280, 282, 283, 285 in *Scient. Res.*). Later on it was excavated by Stein, who calls this spacious house L.B. IV (plan in *Serindia* III, Pl. 28).

It was certainly from the small eastern house (Stein L.B. V) that Hedin recovered the fragment of a large and beautiful wooden relief (Pl. VI) a reproduction of which has never hitherto been published, but also other designs consisting of

¹ In his publications Hedin always refers to the towerlike structures as »tora», the Turki word for tower, regarding them as watch- or signal-towers. All of them have proved to be stupas.

² Map 51, *Scient. Res.*

³ *Serindia* III, Pl. 22.

»pattern devices and scroll-work, lattice-work and lotus-flowers, all cut with artistic feeling, but sadly injured by time».

Stein reproduces a photo of the eastern house (Serindia I, Fig. 112). Like L.B. II, this L.B. V has also served as a Buddhist shrine.

The mound of a stupa found after an hour's march in the direction S 58° E (Scient. Res. Fig. 277—278) is identical with Stein's L.B. VI.

Near it, to the west, Stein found a small temple.

Hedin's houses found on the 3rd of March 1901 must be situated very close to this stupa, though their relative position cannot be deduced from his map. (For plan see Scient. Res. Pl. 75, the inset.) Around the northern house the following implements were picked up: black and red fragments of earthenware, a copper object resembling a rowlock (apparently identical with Pl. XII: 9), some Chinese coins, a couple of red clay cups and a small iron ball. The latter is probably the copper ball No. K. 11228 : 546 with a diam. of 39 mm. In his diary Hedin calls it a canon ball.

An hour's walk to the east finds us at the foot of a dilapidated stupa (the top fig. in Pl. 64 Scient. Res.; Fig. 97 in Serindia and Fig. 149 in Innermost Asia). No objects seem to have been collected in this place; Hedin stayed there the night between the 3rd and 4th of March 1901.

After another good hour's walk towards the south-east the most important ruin of the whole Lop nor region is reached: the Chinese military station of Lou-lan.

There Hedin stayed from the 4th to the 10th of March 1901. All his Chinese MSS on wood and paper were excavated among these ruins, and many of the other small objects must also have emanated from this site, though Hedin gives but little information about the place of origin of these objects — which, by the way, he usually classifies as rubbish. He mentions only a copper lamp, parts of an iron chain, coins, a whip and some silk and other fabrics.

Instead of trying to reproduce my own description of the general aspect of the ruins of the Lou-lan station and its setting in the landscape, I take the liberty of quoting what Stein writes about this subject in Ruins of Desert Cathay (p. 377), which is very much to the point. »The ruins of timber and plaster-built houses rising with their splintered and bleached posts, like the remnants of wrecked boats, on terraces high above the eroded ground, bore an unmistakable likeness to the structures I remembered so well from the Niya site. But how different was their setting!

Instead of the soft-lined expanse of swelling dunes and sandcones, the eye here caught nothing around but an endless succession of sharply cut Yardangs of hard clay, all running exactly the same way, as sculptured by that relentless north-east wind. They too, like the dunes, called up a picture of the sea, not, however, a

sea in free movement, but one frozen hard and buckled into innumerable pressure ridges. The view ranged freely over many miles.»

The Lou-lan station was visited by Stein in 1906 and 1914, by Huntington in 1906, Tachibana 1909 and Hörner and Chen in 1931. Mr. Parker C. Chen is the first Chinese in modern times to view the ruins of this village, once erected by his countrymen, and in the summer of 1934 he twice revisited the place.

Though the water has returned to practically the same northern course as that which it must have followed when Lou-lan flourished, thus eliminating one of the main obstacles of desert travelling, the Lou-lan station has remained one of the most unfrequented spots on earth.¹

The Tarim basin topographically occupies a peculiar position in Central Asia. A glance at a map of this part of the big continent at once makes it obvious that mountain ranges of very high altitudes enclose the basin. Nature seems to have shut it off towards the south, west and north, leaving an open passage towards the east only. Considering the fact of the »open door» being turned eastward, *i.e.* in the direction of China, one would *a priori* expect the Tarim basin to have received most, if not all, of its cultural influences from that part of the world.

In spite of the natural obstacles created by the anything but easily traversed mountain ranges, the cultures of the Tarim basin have been fecundated by impulses from the west and the south (more correctly west and south-west) competing in significance with those coming from the east.

As will be seen from what follows, the archaeological material available reflects influences from many sources.

Although many of the heterogeneous finds from Lop nor do not in themselves give any definite indication of their date, the duration of the occupation is well limited by known historical data and by the existence of the dated Chinese MSS in the ruins of the military station of Lou-lan. Moreover, the highly remarkable natural conditions are such that a settlement can only have existed during certain periods, whereas the intermediate times have not afforded possibilities for it. The honour of having shown the lower Tarim to be a changing river and its terminal lake Lop nor to be alternating is Sven Hedin's.

At the time of the existence of the Lou-lan station (about A.D. 260—330) the river must have flowed along its northern bed and emptied its waters into a northern depression of the great basin. It is also more than probable that the river already followed this course during the second century B.C. We cannot determine the beginning of this »wet» period (we do not even know if it was the same wet period) neither is it definitely known when it ended. Whether the river assumed a southern course in about A.D. 330 and thus excluded the possibility of the occupation of Lou-lan, or whether its occupation was prevented by other circum-

¹ The present position of the river and the lake is to be seen on Hörner's and Chens map in *Hyllningsskr. tillägn. Sven Hedin. Geogr. Ann. 1935, p. 147.*

stances, *e.g.* political disturbances, is a question open to discussion. In the present connection this problem is of but secondary importance, as the fact remains that, according to the indications afforded by the finds, this region became depopulated around A.D. 330, and, according to literary evidence, it has remained nearly forgotten ever since. Therefore it cannot have been long after the said year that the water actually left its northern course, leaving the Lou-lan region uninhabitable.

*

Accounts of a part of the archaeological collection to be described in the following pages have already appeared in print, notably in the late professor A. Conrady's »Die chinesischen Handschriften- und sonstigen Kleinfunde Sven Hedins in Lou-lan» (Stockholm 1920). Professor A. Herrmann's popular and well written book »Lou-lan. China, Indien und Rom im Lichte der Ausgrabungen am Lobnor» (Leipzig 1931) is founded on Conrady's as far as concerns the description of the small objects.¹

The wood-carvings, which form an important part of Dr. Hedin's Lou-lan collection, have never been fully treated, and the smaller objects have also been dealt with rather superficially.

Thanks to Sir Aurel Stein's standard publications (Serindia and Innermost Asia) on his valuable collections from the same localities, we are able to form a more comprehensive opinion of the culture than was possible when Hedin's collection alone was available, a fact that has not been overlooked by Herrmann.

During their visit to new Lop nor in the early part of 1931 Dr. Nils Hörner and Mr. Parker C. Chen brought together, besides their valuable geographical and geological works, a representative archaeological collection, an account of which is not yet published. In the present paper I have made use of their discoveries so far as they have any bearing on the problems raised by the finds of Hedin.

As this remote region in Chinese Turkestan has attracted increasing interest during the last few years, mainly due to the surveys carried out there by members of Sven Hedin's last big expedition, the time might be ripe to undertake a reexamination of Hedin's finds in the light of later discoveries, a task which Prof. J. G. Andersson has kindly entrusted to me. It should be remembered that we knew nothing about the Lop nor region in ancient times until Sven Hedin made his discoveries in 1900 and 1901, which were epoch-making and inspired all subsequent surveys.

The most significant finds from Lou-lan, both in Hedin's and Stein's collections, consist of MSS on wood and paper, mainly Chinese. These documents record the conditions in this region during the latter half of the third and the three first decades of the fourth centuries A.D.

¹ His interpretations of the terraces surrounding Lop nor as old shore-lines must be applied with the utmost caution.

The frequency of the dated MSS in different collections may be ascertained from the following table. All of them have been exhumed at the Lou-lan station.

Date	Hedin	Stein	Tachibana	Total
263.....	—	1	—	1
264.....	—	1?	—	1?
265 ¹	1	3	—	4
266.....	3(4?)	2	—	5(6?)
268.....	2	2	—	4
269.....	3	2(3?)	—	5(6?)
270.....	1	5(6?)	—	6(7?)
310.....	2	—	—	2
312.....	—	2	—	2
324 (about).....	—	—	1	1
330.....	—	1	—	1

These dates afford clear evidence of the duration of the Lou-lan settlement as well as the period of its most highly developed activities, *viz.* 265—270.

The only MSS found subsequently were unearthed by Mr. Huang Wen-pi, a member of Sven Hedin's big expedition, in 1930 from a ruin about 35 km. N 40° E of Lou-lan station,² consisting of some wooden records in Chinese, and dated during the periods *Huang-lung* and *Yüan-yen*, *i.e.* B.C. 49 and B.C. 12—9. They have been briefly mentioned in Mr. Huang's Chinese paper on Travels and discoveries in Mongolia and Sinkiang.

I am aware of this discovery through Mr. Huang's report to Dr. Hedin which Prof. F. Lessing has kindly translated from the Chinese. The ruin in question seems to have been a watch station, and its name, according to Mr. Huang, was T'u-ken. If the dates given are correct we have here the oldest documents known from Lop nor, and it is very interesting that they have been discovered on the northern-most shore of the present lake.

A priori I should imagine that the waters from Kum darya and Lop nor can hardly reach further north than about the position of this ruin. The presence of the ruin there and the distribution of some of Hörner's finds make it highly probable that the road ran near the northern shore of the present lake and the border of the present delta. Some time during the Han dynasty at least a delta-arm with water must have flowed very close to this line. The route traced by Stein north-eastwards from the Lou-lan station and identified as the old Silk road is under present conditions only negotiable by boat.

From the contents of Sven Hedin's Chinese documents Conrady has compiled a vivacious but probably somewhat exaggerated description of the bustling life in those early days of that solitary Chinese settlement.

¹ Hedin has one more from the period 265—274.

² The geographical position furnished by Hörner and Chen.

I do not propose to discuss the MSS in this connection. I should only like to point out that the attribution of the writing exercises in *ts'ao-shu* on Hedin's paper document 33 to the famous calligraphist Wang Hsi-chih (321—379) either as an original or as a copy must reasonably be erroneous.¹ Since the *k'ai-shu* was not invented by Wang Hsi-chih, according to kind information from Prof. Karlgren, but was known already in the 2nd. cent. A.D., the occurrence of *k'ai-shu* MSS does not alter the dating of Lou-lan. Nor does the occurrence of *li-shu* on Hedin's paper document 1 justify its generally accepted dating to A.D. 200.

It should be emphasized, too, that Dr. Hedin was the first in modern times to discover Chinese MSS on wooden tablets. Up till then the existence of this kind of ancient document had been known only from literary sources, the data recorded in Chavannes: *Les documents Chinois*, p. VII f.

Some of the small finds have been misinterpreted by Conrady as to their proper use, while some have been overlooked. In many cases the statements about the materials of which the objects are made are wrong. We have also repaired a certain number of broken implements and have thus been able to identify them.

B. WOOD-CARVINGS.

Buddhism and early Buddhist art is said to have reached the Tarim basin already in the first century A.D. by two routes, the first one leading via Bactria and the Pamirs to Kashgar, Yarkand and Khotan bringing Iranian influences, the second one running from Kashmir to Yarkand and Khotan, and the art it transmitted possessed an Indian aspect. The latter has certainly been the main route, and Iranian elements were transmitted along this route too. Khotan became the stronghold of the new religion for the whole of the Tarim basin, and thence it spread towards the east.

The spread of Buddhism from north-western India to the south-western part of the Tarim basin is closely connected with the political expansion of the Yüeh-chih or Indo-Scythians. In the second century their most famous ruler, Kanishka, himself a devoted Buddhist, gave every encouragement to missionary activities. According to Konow² he seems to have started his career in the Khotan country and also to have returned to Khotan from India. Indian colonists in no small number accompanied this big movement, as is evidenced by the discoveries of documents in an Indian language and Indian writing from Khotan the whole way to Lop nor.

Originally these Yüeh-chih were »barbarian» nomads. However, they seem very soon to have adopted the mixture of various cultures, Greek, Iranian and Indian, which they found in Bactria, Gandhara and Punjab.

¹ Conrady, p. 7 and 39.

² Kharoshthi Inscriptions.

The many different western and south-western influences traceable among the Lou-lan »finds» do not necessary indicate direct connections with those far-away regions but can also be explained as influences from the culture brought along with the Buddhist mission, a culture already mixed and containing many foreign elements.

When Buddhism entered the Tarim basin it was accompanied by Buddhist art. In the province of Gandhara in NW India a most remarkable sculptural art had developed founded on the Hellenistic style and containing Buddhist elements. The date when this Graeco-Buddhist art, which was created by imported Greek sculptors, first emerged is not quite certain¹; it may have started around the beginning of our era, but according to all authorities it attained its greatest development and expansion in the reign of Kanishka (about 128—152 according to Konow). Coomaraswamy describes this style as »from one point of view representing an eastward extension of Hellenistic civilization, mixed with Iranian elements, from another as a west-ward extension of Indian culture in a western garb.» As will be seen from what follows, it was this mixed style of Gandhara that accompanied the new religion into the Tarim basin.

*

The wood-carvings can be divided into representations of human beings and ornamental ones, and they are executed in the form of either beams that have had a constructive function, or as panels with a space-filling function. The material used is the soft wood of the wild poplar (the Toghrak of our days).

Firstly I propose to treat the wood-carvings the origin of which is known within the Lou-lan area, secondly those which are labelled only »Lou-lan».

Let us first of all concentrate our attention on the north-westernmost group of ruins, and especially its little temple.

As already emphasized by Hedin and Stein in their publications, this temple, L. B. II, now merely a heap of timber on the top of a yardang, must have afforded an exceedingly pleasant and attractive sight when still intact, particularly as the wood-carvings were painted.

Unfortunately we do not know very much about the original appearance of the shrine, only that it had a nearly square ground-plan (according to Hedin 5.67×5.55 m., according to Stein 5.94×5.64 m.). Most probably the entrance was situated in the middle of the south-eastern long-side, and most of the ornamental wood-carvings must have been concentrated on the front of the house. Neither do we know how the different architectural ornamented members were connected, and any attempt at a reconstruction is bound to be very hypothetical.

As to the parts which once framed the door, Stein entertained the idea that one

¹ For literature, see Coomaraswamy: *History of Indian and Indonesian Art*, p. 51.

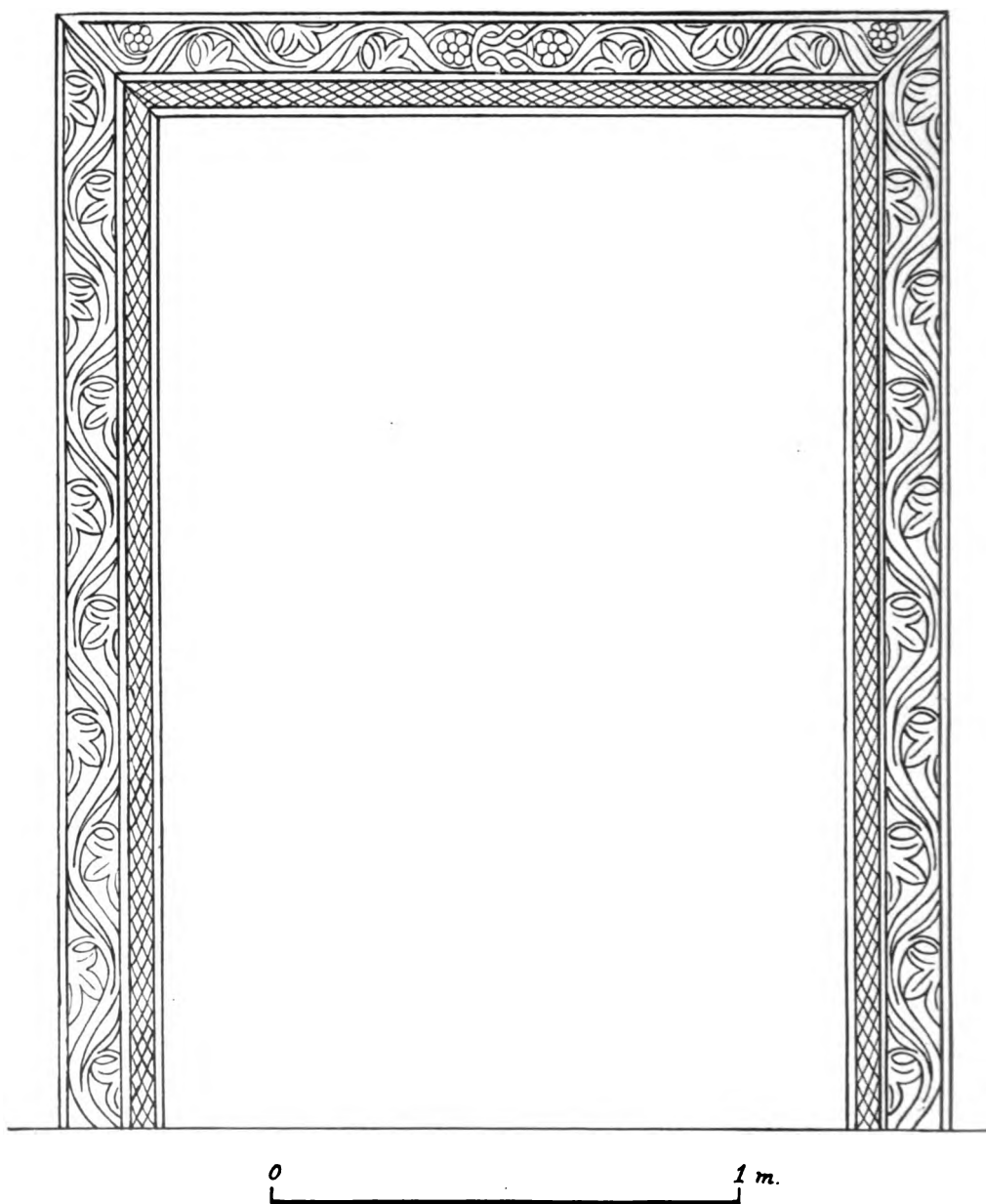


Fig. 1. Reconstruction of a doorway from temple L. B. II at Lou-lan.
The right jamb = Pl. I:2; the lintel = Serindia, Pl. XXXI, L. B. II. 0037;
the left jamb reconstructed.

of his ornamented beams¹ had probably served as a lintel. As the similarly decorated beam in Pl. I:2 also has one end mitred (the other has a tenon) and is about 2 m. long, it might very well have been one of the jambs. The remaining jamb of this door should be that shown in Serindia, Pl. XXXI, L. B. II. 0036 (which in its fragmentary state is only 1.66 m. long). Compare Fig. 1.

The decorations on all of them, with their very low relief and elegantly turned achantus, as well as the accompanying moulding with its lozenge pattern, might have been copied from a Gandhara stone relief from Koi², so startling is the likeness.

Even the beam Pl. I:3 (a fragmentary lintel) is executed after the same pattern (See p. 92.)

The other long beam in Hedin's collection, Pl. I:1, also adorned the small shrine L. B. II, and apparently formed part of the walls together with Stein's L. B. II. 0015 a-d in Pl. XXXI in Serindia. Here the relief is much higher, consisting of horizontally linked circles, connected vertically by means of a kind of knot (reef knot). In each circle is a lotus flower forming a rosette. Each end has a mortice.

Stein considers that these large-sized beams must have formed part of a horizontal mural decoration, probably placed lower down than the lintel of the door.

The chief feature of their ornamentation closely corresponds to a painted scroll found by Stein in a ruin at Niya, and in Gandhara art we find still closer resemblances.³

It is, of course, risky to form an opinion as to the function of Stein's beams L. B. II. 0015 a-d merely on the basis of the reproductions in Serindia, but it looks as if his a and b would match each side of Hedin's beam. If this is really the case we get a set of three planks with the ornamented surface enclosed by a plain border, and a lozenge pattern at one extremity, Fig. 4. The mortices close to either end show that the planks must have been joined together in this manner, though we cannot decide with any certainty whether there were more than three planks. Both Stein's remaining beams, c and d, might have been similarly joined on to a lost middle member.

Thus it looks as if we had to take into account two such groups of ornamented planks, probably with three planks in each. I believe we are quite safe in assuming a symmetrical arrangement of the two groups. They may have been placed in a

¹ Serindia, Pl. XXXI, L. B. II. 0037.

² Foucher: *L'Art Gréco-Bouddhique du Gandhara*, Fig. 174.

³ Foucher: *op. cit.* Fig. 480, where the base of a Buddha sculpture has a similar design. This design was also in vogue in other parts of the world reached by the influence of Greek culture, for instance in South Russia: a golden torque from a royally equipped Scythian tomb at Ryzhanovka (Ebert's *Reallexikon* XI, Taf. 40:9) and a gold necklace from the Crimea (Rostovtzeff: *Iranians and Greeks*, Pl. XVI:4).

horizontal position on either side of the door; such an arrangement fits in pretty well with the measurements.

Above these beams the open-work panels may have been arranged as windows of some sort.

Pl. IV:1 shows a short board with one end rounded and the other cut slantwise, decorated with geometrical designs. On the shorter side it has three small dowel-holes. Serindia Pl. XXXI, L. B. II. 0029 from the same locality is identical. The question of their use is open to discussion.

It is fairly certain that the wooden representations of miniature stupas crowned the roof as finials. At least three of them originate from this shrine, as will be seen in Scient. Res. Fig. 294; Stein carried away two of these (Serindia Pl. XXXII, L. B. II. 0033—34). They are complete at the lower ends and fitted out with a mortice, but the crowning disc on the top is missing.

Unfortunately we are unaware of the origin of the similar stupa in Pl. VIII:1, which will be described later on.

The open-work panels are carved on one side only. At top and bottom — or at both ends — depending on whether the planks are arranged vertically or horizontally — they have rabbets to fit into mortices in a frame. The main part of them must have been inserted as lattice-work into what we might call windows. Some of the panels probably adorned the structures in other ways, as, for instance, the two large reliefs showing a seated human figure.

Pl. IV:6 shows a fragment of a most interesting panel, 70 cm. high, the only animal representation in this collection. It is the hind part of a beast with its long thin body humped, probably almost in a circle. Across the body is seen the top of a very slender wing (?) with the point turned upwards. The long tail forms an S-curve between the hind-legs. On the front part of the right leg is a carving which might represent the muzzle and three teeth in the upper jaw, indicating that the beast is biting across its own hind-leg, *nota bene* if there has been only one beast in the composition. Fig. 2 furnishes a very hypothetical reconstruction.

Stein has four fragments of similar beasts from the same locality,¹ and he also mentions a badly decayed beam or panel with a rilievo design of two running animals facing a central figure.²

Dr. Hedin's fragment is apparently the best preserved and the best executed one, and it is to be regretted that no more of this panel was saved from destruction.

In Gandhara art vivid figures like those just described are not so common as in early Indian art, and we have to look for prototypes in Iranian art. Here is an abundance of griffins and similar monsters.

¹ Serindia, Pl. XXXIII, L.B.II. 0011—12 and 0053, and Pl. XXXIV, L.B.II. 0021.

² , p. 397.

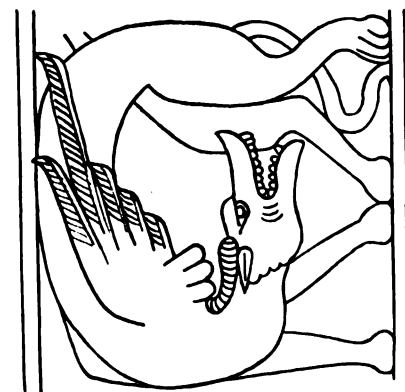


Fig. 2. Very hypothetical reconstruction of Pl. IV:6.
Some details borrowed from Stein's fragments from
the same locality.



Fig. 3. Reconstruction of Pl. II.

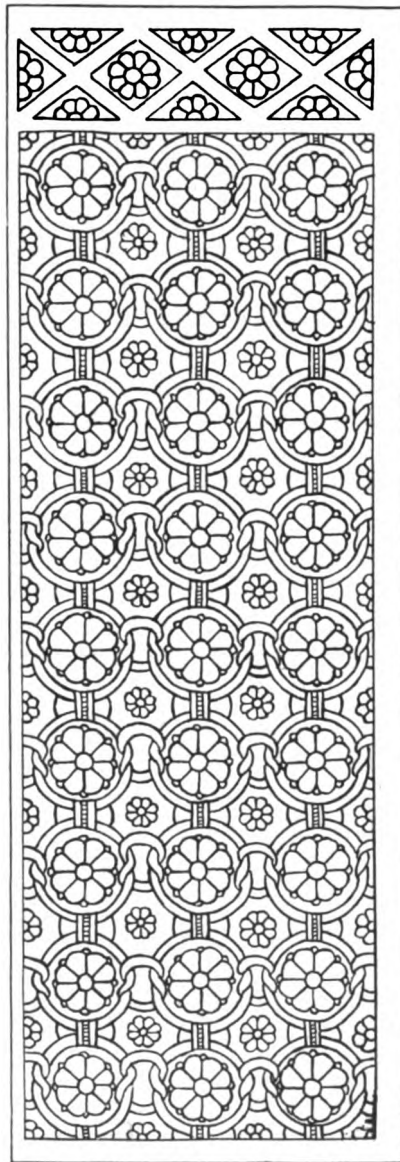


Fig. 4. Schematic combination of the beam Pl. I:1 and two of Stein's beams,
all of them from temple L. B. II.

The same monster family is represented by four figures on a carved double-bracket from Niya.¹ These, however, are relief and not open-work carvings. Technically they are inferior to the panels.

Reference may also be made to a mural painting with a griffin discovered in a ruined Buddhist shrine at Miran on the southern border of the Lop nor basin², and to the fact that on several Chinese textiles found in the tombs of Lou-lan there are winged quadrupeds.

In one of the Noin-ula³ graves a woollen embroidery is adorned *inter alia* with a slender-bodied griffin.

Pl. II is a reconstruction from several fragments of an open-work panel with a big vase in the middle from which emerge two floral scrolls, curving down harmoniously, almost symmetrically on either side, and filling the space between the vase and the frame. Except for its having no handles the vase is amphora-shaped. The lower part of it has a decoration of eight leaves, and round the lower part of the neck there is a band with a carved lozenge pattern. The motif is attractive and neatly executed. For complete reconstruction see Fig. 3.

Part of this panel has been wrongly interpreted as representing a fish surrounded by a floral pattern. Owing to the position of the different fragments this »fish» theory was automatically abandoned; now it forms the left side of the vase.

Stein did not find anything similar to this panel at Lou-lan.

An analogous motif with a vase and flowers occurs on two sides of an ornamented beam from Niya⁴, though of much inferior execution; this applies also to a carved chair from the same place.⁵

These vase designs in Stein's collection show close similarities to the lotus-pots on pure Indian as well as Gandhara reliefs which Foucher has recently declared to be symbolic representations of the Buddha's nativity.⁶ In our wood-carving the vase is more prominent than the plant emerging from it, there being no exact parallels among Foucher's reproductions, but apart from this fact the Lou-lan carving might very well have something in common with those earlier representations so interestingly deciphered by Foucher.

Of another big panel there remains only part of the frame and a quarter of a lotus flower in one corner, Pl. III: 2.

Nearly square open-work panels with a four-petalled lotus flower were much

¹ Serindia, Pl. XVIII.

² , I, Fig. 133.

³ This spelling has been generally accepted after the Russian transcription. In English, however, the name ought to be written Noyan ola. It means The chief's mountain.

⁴ Serindia, Pl. XVIII, N. XXVI.iii. 1.

⁵ Anc. Khotan, Pl. LXVIII, N. VII. 4.

⁶ On the Iconography of the Buddha's nativity.

in vogue among the builders of the Lou-lan structures; the lotus design being of Indian origin was introduced through the Buddhist art. In a Buddhist stupa at Saidpur in Sind, for instance, decorative tiles have been discovered with floral design recalling the open-work panels of Lou-lan. They date from the beginning of our era.¹ From L.B.II we have the fragment in Pl. III: 1 which might very well be the other half of Serindia, Pl. XXXII, L.B.II. 0030. The four notched petals are elongated to fill the corners of the frame, the sepals show between the petals; both are veined with a straight central rib.

A similar panel, but with a wavy central rib on the petals, is seen in Pl. XXXI in Serindia (L.B.II. 0016—17).

Pl. III: 4 is a fragment similar to the above but with a plain border of petals and sepals. Probably it originates from this site, too, though we have no proof of its having done so.

Stein has a similar fragment from another group of ruins.²

Square open-work panels with a heavy trellis-work of square holes set diamond-wise have certainly served as windows. As such they are still in use in Eastern Turkestan.

The fragmentary one reproduced in Pl. III: 8 and the one in Serindia Pl. XXXIII, L.B.II. 0028 undoubtedly belong to one another. There have been two windows fitted in this way in this temple, as may be seen in the upper picture of Pl. 76 in *Scient. Res.* It is impossible, however, to find out whether the other fragment in Hedin's collection, Pl. III: 5, was discovered here or at some other ruin.

According to Von Le Coq,³ window panels consisting of open trellis-work are a form that has spread westwards from the Orient.

A rectangular board from L.B.II bears traces of red painting. It has a small rectangular hole near each end, and a groove, $33.5 \times 1.5 \times 1.8$ cm., running along one edge, into which the rabbet of a small panel may have fitted. This board is seen on the extreme left in Fig. 294 in *Scient. Res.*

The only sculpture from the Lou-lan area that is nearly in the round is the one reproduced in Pl. IV: 5 representing a man standing upright, and which once adorned the interior of the north-westernmost shrine. The feet and the right arm are missing.⁴ The rear side is left uncarved. The head is bare; the face is oval, the forehead rather low, the eyes large, the nose long and straight, the mouth small and the chin rounded. The dress consists of a coat reaching nearly to the knees with a belt round the waist, wider in front than at the sides. Round the neck is a marked border. From the remarkably broad shoulders and down to the lower

¹ Arch. Surv. of India, Annual Rep. 1914—15, Pl. LVIII c.

² Serindia, Pl. XXXII, L. B. V. 009.

³ Bilderatlas, p. 33.

⁴ Serindia, Pl. XXXIV, L. B. II. 0052 might be the missing right arm.

edge the coat is draped in conventional folds. The trousers, too, seem to be draped uniformly. The sleeve reaches to the elbow, and round the remaining wrist there is a bracelet. The arm is made of a separate piece of wood and has been fastened to the shoulder by means of dowels. In the remaining arm there are two holes for dowels, but in the shoulder there is only one. The right shoulder is defective. In previous reproductions¹ the complete arm has been wrongly placed on the right side, and the fragmentary one (Pl. VII: 5) on the left. As seen in Pl. VII: 5, which is nearly identical with the arm of the sculpture, there may be some uncertainty as to which is the thumb and which is the small finger. Probably the hand is grasping some object. From the slight curve at the elbow and from the rounded outer surface of the arm it is evident, however, that it is meant to represent the left arm. The fragmentary arm has probably belonged to a second figure; its place of origin is unknown.

The dress is of classical cut and of the same fashion as shown on a stone relief (Vajrapani) of the Gandhara school.²

Stein has ventured the conjecture that the clenched hand might suggest the pose common to Lokapalas or »Guardian Kings of the Regions». Lokapalas of later times are characterized by a vivid and ferocious expression which, however, was not the case with the earliest figures of this kind. On the other hand, the stiff and lifeless bearing of the Lou-lan figure, partly due to the limitations enforced by the material, points to its high antiquity. Probably the clenched fist is a symbol of stability as is the case in dance gestures.

The central deity of the shrine might have been a stucco image. Dr. Hedin saw some stucco fragments, and Stein discovered a fragment, probably of the head-dress of a large stucco image, and another fragment from the flame border of a large halo or vesica in relievo. Due to the less resistant material this image has decayed far more rapidly than the wooden objects.³

There has also been a somewhat monumental wooden relief adorning this shrine. It has been composed of several horizontal boards. Unfortunately only the low-

¹ For instance in Hedin's *Central Asia and Tibet*, II, p. 125.

² Foucher: *L'Art Gréco-Bouddhique*, Fig. 334.

³ The opinion has been put forward that the large wheel pictured in Pl. 66 in *Scient. Res.* and found at the Lou-lan station once served as the base or foundation of a stucco image. As far as I am aware the bases of images are always oval, somewhat triangular or rectangular with rounded corners, but never quite circular.

The wheel is actually very clumsy and heavy. Similar wheels, however, are still in use on the primitive bullock carts of Shansi and Yünnan (see for instance *Asia*, Sept.-Oct. 1933, p. 474). I therefore agree with Dr. Hedin's opinion that this wheel is that of a cart, most likely a bullock cart. Already before the time of Lou-lan there existed cart wheels made on the same principle as nowadays, *i. e.* with nave, spokes and felloe, but on the very rough roads around Lop nor the first mentioned type of massive, heavy wheel was certainly the most appropriate one.

est part of this large carving has survived. It is reproduced in Pl. V:2, but its fragmentary state does not permit of any complete reconstruction. So much is evident, however, that there has been a representation of a seated deity within a large vesica and on either side a standing figure. The composition thus closely corresponds to that of the relief in Pl. VI to be described later on. When complete this panel must have been about 1.65 m. broad; the height may have been about 1 m.

The drapery is distinctly indicated by means of schematic, incised lines, reminding one of the technique used on the sculptures of Gandhara, and it affords one of the most patent examples of how even the wood-carvings executed in very low relief are reproductions of stone reliefs of the Gandhara school, at the same time showing that the different materials employed have hardly obscured the close resemblances as to style and general expression.

The main figure is seated with crossed legs, but with the feet pendent, on a low invisible plinth, draped with some material in nearly vertical folds. Immediately above the feet the left hand, with straight forefinger, is holding a folded flap of the dress or a broad ribbon hanging down in an S-curve from the hand and reaching the lower margin of the picture. A corresponding flap or ribbon is arranged across the right knee.

Anc. Khotan, Pl. LIV, D.II.10, a seated Buddha or Bodhisattva, affords the nearest parallels to what is left of the figure described.

A small part of a vesica with dentated border can be seen at either side. The left corner of the panel is occupied by the lowest part of a standing figure in a robe reaching to the ankles. The folds are practically vertical in the middle, and those on the sides are slightly convergent towards the middle. Immediately bordering the vesica there may have been a suspended ribbon just as in the case of the standing figure on the relief Pl. VI. The feet are broken off and lost, but it can easily be seen where they were originally placed.

The rabbet, by means of which the panel has been fixed into its frame, is intact on the left extremity.

Very little is preserved of the right side of this carving, but one deep furrow denoting the border of a robe can be seen, and thus it is more than likely that there has been a standing figure on that side, too, as presumed above, *i. e.* the composition has been a triad.

As the right hand is missing we cannot determine the *mudra* and we must confine ourselves to the statement that this panel fragment probably formed part of a representation of a Buddha or a Bodhisattva with two attendants. Most likely the right hand was raised in *Abhaya* (Consolation and Benediction), the *mudra* that was most commonly used in Gandhara time.

We are ignorant as to the place and position this large relief occupied in the temple. Might it possibly have adorned the space above the lintel on the front wall?

Pl. IV:4 shows the lowest part of a long beam carved with reliefs representing a vertical row of figures, each standing under an arch supported by pillars or pilasters. When complete this board must have been more than 2 m. high (see *Scient. Res. Fig. 294* on the extreme right). On the actual specimen there are only two figures, each 25 cm. high. As to the composition, reference should be made to Pl. V:1 from the Lou-lan station, where, however, the figures are seated and arranged horizontally. In both cases the space below each arch is nearly filled by one figure. On the one now in question the high *ushnīsha* (or head-dress?) reaches the apex of the arch, and the figure is standing directly on the vault of the arch below.

The figures differ somewhat from one another. The lower one holds a lotus bud(?)¹ in its right hand, which is raised above the elbow, the left arm is hanging down; the hand probably grasping a ribbon falling from the shoulder.

The upper figure holds the hands symmetrically in front of the chest (in *Anjali mudra*?).

Both figures are similarly dressed in a long robe with flowing drapery, which reveals the contours of the body. From the shoulders a ribbon or »streamer« hangs down along each side of the figures.

The bases of the pillars rest on strong plinths, and the capitals are well developed. No fine details can be noticed as the state of preservation is rather poor.

The left border of this beam is simply moulded; on the other edge there is a shallow mortice just between the two figures.

It may have served as some kind of jamb inside the temple.

For what it may be worth, I should like to call attention to an Indian stone relief (Mathura) as seen in *Ostasiat. Zeitschr.* 9, p. 202 Fig. 3, which in its general idea very much resembles a combination of Pl. IV:4 and Pl. I:2.

Now let us turn to the next group of ruins, those discovered on March 28th 1900.

Hedin left the main house, L.B.IV, intact. Later on, when excavated by Stein it yielded a great many representative relics of different kinds, as described in *Serindia*.

The structure L.B.V was that of a temple of modest dimensions. The foundation beams found by Hedin showed a ground-plan of 5.6 × 6.6 m. The constructive features as well as the ornamentation of the walls in the building must have been of practically the same type as in L.B.II just described. It is therefore very probable that these two shrines were contemporary.

As mentioned above (p. 73) Hedin recovered some smaller objects from this place and also some wood-carvings. But the only one we know with any certainty to have come from this temple is the large fragmentary relief Pl. VI, which

¹ Or possibly a »chowrie«. Compare a *Simhanada Lokeshvara*, Pl. LXIV in Benoytosh Bhattacharyya: *The Indian Buddhist Iconography*.

must have formed one of the main decorative elements, if not the central deity, of the sacred room. Though split and splintered by weathering and worn by sandstorms, this piece of art has retained much of its monumentality. It was built up of vertical boards, only two of which are extant. The relief is very low, the artist having depended for his effects upon simple arrangements of flat plane carving. Undoubtedly the composition is meant to be symmetrical; the seated figure has formed the centre, at either side of which there has been at least one figure standing upright. If we assume the existence of one figure on each side the relief will have been about 1.5 m. broad.

The slender-bodied central figure is a man seated in »European fashion» with the legs crossed in front of the throne and the thin feet pendent. The incised slanting lines on the throne seem to indicate that it is draped with cloth, a feature characteristic of the Gandhara sculptures. The left arm is held akimbo, the hand with long and stiff fingers rests on the thigh and is holding a trident, the long shaft of which forms a diagonal in the picture. The features are practically effaced. The head is crowned either with an *ushnisha* with two short horn-like projections or with a cap.

Very few details remain of the dress, but round the throat the neckband is seen, and indistinct folds are curved across each half of the chest. There is a belt round the waist, and the somewhat tight trousers, of Iranian style, reach to the ankles. Whether the figure is barefooted or shod with some kind of soft boots is indiscernible. The sleeve probably ends at the elbow, and round the wrist there are two bracelets.

The whole figure and the throne is encircled by an aureole, but it is impossible to say whether there has been any halo or not.

To the left, and outside the aureole, is an upright figure designed on a slightly smaller scale and dressed in a long robe. His right arm is raised and the hand grasps the trident. A broad folded ribbon is hanging down from the arm in an elegant curve. The cap has a high projection in the middle. The ear-lobes are elongated. This figure, too, seems to be wearing two bracelets.

The composition is naturalistic, the statuesque bearing of the figures is a little stiff but not lifeless. The standing attendant in particular has a touch of elegance in his general appearance.

The trident, which, so far as I understand, forms the only attribute of the seated figure, is shaped exactly like that of Poseidon, a form which is also used as an attribute of Siva. Here, however, neither of those Gods can be taken into consideration. In the Buddhist Pantheon several deities carry the *trisula* or trident, some of them, such as Mahakala, being deities evolved out of Siva. The type of this god that became common later on was not yet developed in Gandhara time but was created from representations on Indo-Scythian coins. On the other hand, the trident is an Indian royal emblem, but in our case the character of a Buddhist representation can hardly be denied.

Another interesting feature, *viz.* the standing man grasping the trident, has no parallels, so far as I am aware, and I must leave it to the specialists to establish the identity of the whole of this scene.

The Lou-lan station did not yield such a quantity of ornamental wood-carvings as did the two small temples to the north-west of it. Outside the south-western part of Hedin's House F the beautiful relief shown in Pl. V: 1, with four Buddhas sitting under an arcade (or in niches), was excavated. This is only the best preserved part of an originally much longer board or beam that was probably an interior adornment of a temple at the Chinese military station, being the only wood-carving of any importance from there.

From L.B.II Stein recovered a similarly decorated beam, though it is badly preserved.¹

The arrangement with figures seated in an arcade, each figure nearly filling the space below one arch, is well known from the art of Gandhara². The pilasters supporting the arches are disproportionately short, which seems to be a feature typical of the Gandhara reliefs with their crowded scenes. The pilasters have two longitudinal incised lines, the arches are roughly moulded and slightly pointed. The capitals are decorated in a simple manner vaguely recalling the Indo-Corinthian order. In each spandrel there is half a lotus flower.

The closest parallel to the arcades on this relief and the one in Pl. IV: 4 is found on the Bimaran gold reliquary,³ which dates from at least the beginning of our era.

The relief is rather high and is executed in greater detail than any other of those in Hedin's collection, though even here time has damaged much. So far as can be ascertained, all the well-proportioned figures are seated in the same position, each one with the hands interlocked in the lap, *i. e.* in *Dhyana* or Meditation. The very close resemblance to Foucher: *op. cit.* Fig. 455 should be pointed out. The drapery is less deliberately arranged than on the other Lou-lan reliefs; below the hands it forms a semicircular flap, which conceals the feet. The plinths are all of the same plain model with a flat moulding at top and bottom. The designs that occur on similar plinths of the Gandhara school were probably executed in painting on our relief. Both body-halo and nimbus are circular.

It is difficult in any case to determine the attributions of the figures from Lou-lan, but the lost colours render it still more difficult to do so.

It is worth mentioning that none of the seated figures among the Lou-lan sculptures have a lotus throne. Otherwise the lotus flower was a highly popular design.

*

¹ Serindia, Pl. XXXII, L.B.II. 0027.

² Foucher: *L'Art Gréco-Bouddhique*, Fig. 300.

³ Foucher: *op. cit.* Fig. 7. For better reproduction see Smith: *A history of fine art in India and Ceylon*, Pl. LXXIV:B.

We may quite safely assume that practically all of the following wooden objects originate from the ruins L.B.II and L.B.IV—V. But as there is nothing to indicate their proper place of origin save the collective labelling »Lou-lan», I think it more expedient to treat these objects separately.

Firstly, there are some open-work wooden panels, two of which bear a lotus design.

The first one, Pl. III: 3, is almost complete. Within a square border is an eight-petalled lotus flower with the sepals showing between; they are all veined with a straight central rib. The central plain part is bordered by seventeen leaf-shaped stamina (?). The flower rests on two diagonals and is further connected with the frame in the middle of each side of the square frame.

In Scient. Res. Fig. 295 there is an excellent drawing of this panel showing how it has been fitted into a loose outer frame, though the panel is wrongly turned in relation to the frame.

The second one, Pl. III: 4, is a fragment of a similar panel. The lotus flower is four-petalled with sepals showing between. Both kinds of leaves are veined with a straight central rib, and the petals have also a groove running parallel and close to the edge.

Its close resemblance to Serindia Pl. XXXII, L.B.V. 009 might mean that they have the same place of origin.

It is possible, though not certain, that the two fragments Pl. III: 6 and 7 filled a window at L.B.V. Whether or not they were fitted into the same window is not quite clear.

The pattern consists of open trellis-work on diagonal bars with large wheels round each point of junction. These wheels touch each other along the diagonals, but perpendicularly and horizontally they are connected by vertical crosses.

Serindia, Pl. XXXIII, L.B. 0018 is an identical example.

The small fragment Pl. VII: 2 is similar to Stein's fragment Serindia, Pl. XXXIV, L.B.IV. i. 001. The border, 8 cm. wide, is divided horizontally into three bands by slanting grooves, the same technique as that employed to mark folds in the draperies of the reliefs with human figures. Below this is part of a wheel pattern.

Another still smaller fragment without any inventory number may have belonged to the same open-work panel as the previous one.

Finally, there is a much-decayed fragment of a panel Pl. III: 5, identical with Pl. III: 8.

Among other wood-carvings with unknown place of origin we notice the fragmentary right arm of a sculpture in the round, already mentioned, Pl. VII: 5.

The upper part and outer side are missing. The hand is clenched. The sleeve reached a little below the elbow. It does not belong to the big figure, Pl. IV:5.

The much-decayed fragment of a carved lintel, Pl. I:3, has been mentioned in connection with the long beam Pl. I:2. Both ends have been cut off by Hedin's men, and part of the upper edge has also been chopped off a little.

The lower middle part has a framed rectangle filled with a lozenge pattern. Between this rectangle and the left border a floral scroll emerges, filling the space to that side of the rectangle. The upper contour of the beam is slightly arched. Underneath, near the left end, there is a square mortice to receive the jamb.

Pl. I:4 shows a very well preserved short ornamented beam with one end mitred. Along one edge there is a moulding made up of leaves round which a ribbon is wound spirally. Between the plain borders there are two ribbons (with a central line of diminutive lozenges) interlacing angularly and forming large lozenges which are filled with open four-petalled rosettes. The side triangles are filled with similar half-rosettes.

It should be compared with Serindia, Pl. XXXI, L.B.II. 0025—26, apparently the same beams as those depicted in Fig. 294 in *Scient. Res.* The delicately executed pattern reminds one very closely of the decoration on a Buddha throne in the Gandhara art (Foucher: *op. cit.* Fig. 213), and is strictly classical in design.

In Hedin's collection there is a baluster (Pl. IV:3). I quote Stein's observations on similar balusters found by him: »It may be surmised that the elaborate lathe-turned balusters, L.B.II. 0010, 0038—45, and the rails which they formerly supported, L.B.II. 0046—51, had once served to enclose some portion of the space within the shrine, and probably that containing objects of worship.» At L.B.V., too, he found a couple of these balusters (Serindia, Pl. XXXIII). It must be remembered, however, that they could just as well have been fitted as a kind of lattice-work in windows.

Pl. IV:2 is a fragmentary wooden beam of semicircular section. On the convex surface it is carved with a lozenge pattern forming overlapping scales.

On many Gandhara reliefs this kind of pattern is used as horizontal mouldings as well as pilasters (Foucher: *op. cit.* Fig. 301, 443 and many others). Sometimes the scales are pointed upwards.

A miniature double-bracket capital carved in one piece (Pl. VII:1) shows analogies with an ordinary-sized capital from Stein's fortress L.K. in the southern part of the Lop desert.¹ Our sample seems to be half-finished and was intended to serve either as a carpenter's pattern or as part of a piece of furniture.

¹ Innermost Asia, Pl. XV, L.K.i. 03.

Otherwise there is only one object in Hedin's collection which has with any certainty belonged to a piece of furniture, *viz.* a lathe-turned leg of a small wooden cupboard (?), Pl. VII:3. Stein has found a similar one, though plainer,¹ besides very elaborate uprights of profound interest.²

Half a wooden finial of bulbous shape with a marked horizontal groove (No. 03. 11. 429) is badly preserved; it reminds one of the object to the right in Fig. 289 in *Scient. Res.* (Both objects in this Fig. are unknown to me and were probably never brought home.)

Finally there is a fragment of a cornet-shaped object, Pl. VII:4, of uncertain use. At the thinner end there has been a disc-like member, about 8 cm. in diam. The widening surface is decorated with horizontal ridges at an interval of 1—1.5 cm. The wider part is hollowed out as far as to half the length of the object. If I were to venture a guess as to its original employment I should say that it may have formed the »umbrella-part» of a small stupa.

Pl. VIII:1 is a proper stupa representation of the same kind as those mentioned on p. 82. It has been cut off across the circular dome by Hedin's men. This object was undoubtedly placed on the roof of a temple.

The three following miniature stupas of wood, and one of bronze, formed part of the religious paraphernalia in either or both of the temples, though their proper function is difficult to determine. The one pictured in Pl. VIII:2 is carved in the round and consists only of the top of a votive stupa or a reliquary³ (a square member dilating towards the top with four »steps», and above these seven »umbrellas»; the actual top is missing. At the base there is a square tenon for fitting into the dome.)

Serindia Pl. CXXVIII, Mi.XII. 0027 shows how a similar stupa has been mounted; Pl. XXXV, L.B.II. 009 is another similar votive stupa (turned upside down in the reproduction).

These are to be regarded as equivalents of the votive stupas used nowadays in Buddhist temples.

Then there is one complete and one fragmentary miniature stupa (Pl. VIII:5 and 3) made of thin slips of wood. The former is well executed and consists of a base with three steps, a slightly vaulted dome, a »couronnement», eight⁴ »umbrellas», and a crowning disc. The latter, Pl. VIII:3, of inferior execution, is broken off.

¹ Serindia, Pl. XXXIII, L.B.IV.iv. 003.

² , , XXXIV, L.B.IV.v. 0013 and 0023.

³ Compare Von Le Coq: *Auf Hellas Spuren in Ostturkistan*, Taf. 39.

⁴ The number of »umbrellas» must be odd. The topmost one, though of the same execution as the rest, must be regarded as the member usually appearing below the crowning disc.

Any attempt to date the sculptures among the Lou-lan wood-carvings must depend upon the chronological position of the Gandhara school. But, as stated above, the time at which this Graeco-Buddhist art first emerged is somewhat obscure. As to the Lou-lan reliefs, the *terminus ad quem* must be the beginning of the 4th century A.D., and as Buddhism was introduced into the Tarim basin in the 1st and the 2nd century the reliefs in question most probably belong to the 2nd or 3rd century A.D. They are thus the oldest known remains of Buddhist art from the eastern part of the present Eastern Turkestan.

C. SMALL FINDS.

BUDDHIST OBJECTS OF METAL.

What has been said about the miniature votive stupas of wood is also applicable to the small bronze¹ stupa shown in Pl. VIII:4, but the latter must have crowned some larger object as it is fitted with a tenon below the base. The same orthodox scheme has been followed in its construction, but the mouldings on the base are more elaborate than on the wooden samples, and there are only three »umbrellas». In a way it gives the impression of possessing higher antiquity than the wooden ones, at any rate, it is more Indian in type. Its actual place of origin is unknown.

From the military station of Lou-lan comes the very interesting object reproduced in Pl. VIII:6, which has also had a function in the Buddhist cult. It is a copper lamp or incense burner with impressed ornaments of lotus leaves and a long handle. It was published by Dr. Hedin in his personal narrative² but is not mentioned in Conrady's description. The »lamp» consists of a circular bowl with a flat bottom. The flattened, wrought handle might possibly have had a holder of wood or similar material. It projects from the rim of the bowl, near which it forms six coils, and terminates in a hemispherical knob. The lid is high and rounded with an open top, but whether this hole in the top is made intentionally or caused by damage is hard to decide. Inside, the bottom is burnt red, and there is a black substance still adhering to it.

The nearest parallel known to me is an iron lamp found during the excavations at the monastery at Jaulian, Taxila.³ It has a spherical bowl with round foot, only two coils at the base of the handle, which has a solid holder, and the lid is provid-

¹ No analyses of the metals have been made, but as most of the objects are undoubtedly cast, it is *a priori* probable that they consist of bronze and not of copper.

² Central Asia and Tibet, II, p. 115.

³ Marshall: Excavations at Taxila. Pl. XXVIII f.

ed with a narrow neck for the wick. The ruins where this iron lamp was found date back to the 4th and 5th centuries A.D.

A somewhat similar, though more elaborate, incense burner was found by Von Le Coq at Tumchuq¹ in Eastern Turkestan, and is of a type which has parallels in Egypt. Associated types are still in use among the Buddhists of Eastern Asia.

The Tumchuq incense burner is not determined chronologically. A temple adjacent to the ruins in which it was found had representations in pure Gandhara style,² which, however, does not indicate any definite date. Stylistically it belongs rather to the Tangperiod than to any other, and it has been labelled as Tang in Japan.³

Lotus leaves shaped exactly as on the bowl of our »lamp» are to be found on many of the stucco reliefs from ruins of Buddhist structures along the southern rim of the Tarim basin, for instance Dandan uiliq.⁴ Originally the form of the leaves on the lid goes back to Hellenistic prototypes.

STONE AGE FINDS.

Sven Hedin gave us the first hint of the existence of a possible Stone Age at Lop nor. In his collection of antiquities there are two stone artifacts. One is a core, Pl. IX:2, of agate-looking stone from one side of which flakes have been split off, the other is a flake, Pl. IX:3, of yellowish silex. Their small size is typical of the microlithic industry of Eastern Turkestan and Mongolia. To judge from their form little can be said as to their probable age, as simple things like these existed already in palaeolithic times, remained in use throughout the whole neolithic period, and possibly down into historical time. And they do not originate from any definite stratum, but were picked up from the wind-eroded surface of the ground.

Stein's collection of about 450 stone implements from Lop nor is more representative and has been described and discussed by R. A. Smith.⁵

In 1931 Dr. Hörner and Mr. Chen of Dr. Hedin's latest expedition assembled another collection of about 280 specimens, consisting of the same kind of artifacts and flint refuse. Just as in the case of Stein's implements, Hörner's and Chen's are made of silex, jasper and similar siliciferous stones, and the small axes are manufactured of dark-green or brownish jade.

If we examine these axes (Fig. 5) we at once observe their striking similarities

¹ Bilderatlas, p. 41, Fig. 14.

² Berliner Museen, Berichte aus d. Preuss. Kunstsamml. 1921, p. 89.

³ An almost exact replica in Kanō: Hakkakuchō I, Pl. 50.

⁴ Anc. Khotan, Pl. LIV (D.II. 34), also among Dr. Hedin's finds from the same locality, for instance Pl. XIX:1 and 3 of Montell's paper in this Bulletin.

⁵ Man 1911, No. 52 and Innermost Asia, p. 1057.

to the axes excavated by Prof. J. G. Andersson in the Sha Kou T'un cave.¹ In that locality they occur together with pottery of the Yang-shao type. The cutting-edges on these axes are straight or nearly straight, denoting, too, a late neolithic period. It might be worth mentioning that this short and broad axe type is not found in those parts of Inner Mongolia where I have made investigations, neither does it occur in Kansu and Honan.

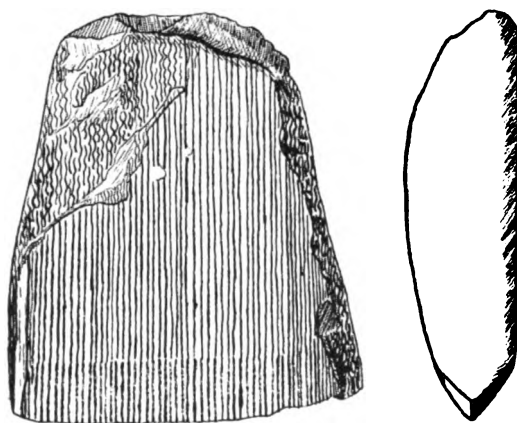


Fig. 5. Small axe of green jade.
Inv. No. K. 13368:29. 1:1.

The slender, very elegantly made arrow-heads found by Stein are also wanting in Inner Mongolia, and there are also other small differences between the stone implements from Lop nor and those from Mongolia.

The distribution of the stone implements at Lop nor shows that there has been a more or less permanent settlement of Stone Age people to the west of the present lake. Stein says (*Innermost Asia* p. 197) that »a wide belt of ground (between the Lou-lan station and Kara koshun), stretching from west to east, must have been fit for at least nomadic occupation during a prolonged period in prehistoric times.» To the north of the present lake and the delta of Kum darya there are only scattered finds of Stone Age remains, and to the east of the salt-crust nothing of this kind has been found, whereas finds from the latest occupation are recorded from there.

No stones exist in the lacustrine sediments of the Lop nor basin. Raw material for the manufacturing of artifacts had to be brought from the surrounding mountains, Kuruk tagh and Astin tagh. Jade was imported from the latter range or from K'un-lun.

I propose to elucidate the Stone Age questions more thoroughly in a future publication.

¹ The Sha Kou T'un Cave-deposit, Pl. VI:9—11.

POTTERY.

The wind-eroded ground in the Lop nor desert is in many places strewn with fragments of pottery. Both Stein and Hörner have found kilns containing thousands of potsherds, which show that the ware was produced locally. Hedin collected only a few samples, and none of them can be older than the Lou-lan of historical times. There are two fragments (Pl. IX:11—12) of big pots or jars with rude ornamentations consisting of deeply incised straight and circular lines. Pl. IX:15 shows the upper part of an earthenware jug which once had a handle.

The bulk of his pottery finds consists of twenty-three complete cups and one fragmentary small flat cup recovered from the ruined Buddhist shrines, where apparently they were placed on altars as receptacles for offerings or as votive lamps, five of them have a spout to keep the wick in place (Pl. IX:13). Pl. IX:14 is more roughly made with finger impressions clearly visible. Of all these Conrady mentions only the fragment Taf. III:43.

In Hörner's collection there is likewise very little pottery. A cup of the form described above has served as a lamp (No. K. 13378:1).

In Scient. Res. Fig. 286 Hedin provides us with drawings of four other clay vessels from the ruins first discovered. In the Lou-lan station he found a very bulky vessel (seen in Pl. 70—71 and Fig. 291 in Scient. Res.).

A spindle whorl (Conrady III:1) and a sinker (Pl. IX:6) are made of potsherds.

Stein mentions »coarse neolithic pottery» several times in the text. The few specimens reproduced in his publications, have, in my opinion, nothing in their ornamentation that makes it necessary to date them so early. From Hobson's following statement in Innermost Asia (p. 1013 f) it is evident that there are two different kinds of pottery, the one earlier and the other more recent:

»*Lop Desert*. The fragments of sand-worn pottery from this area are of red ware (sometimes black on the surface) or coarse black ware, apparently all hand-made. The ornaments consist of impressed circles, a rough incised herring-bone pattern, and notched bands in relief, all of which are common to the primitive pottery found in many parts of the world.

Lou-lan. The pottery from the Lou-lan area appears also to be mainly hand-made, though in general character it is more advanced than the Lop fragments and nearer to the Tun-huang pottery. It is of grey and red material ornamented with 1) incised crosshatching, wavy bands, herring-bone etc. and plain and wavy lines made with a multiple tool; 2) impressed or incised wicker pattern, circles etc.; 3) raised bands of cable pattern. It was probably made locally by Chinese».

SPINDLE WHORLS ETC.

The spindle whorls are made of stone, fragments of earthenware or bitumen. For those shown in Pl. IX:5 and No. K. 11227:11 a bluish-grey slate has been used (the latter is made up of two pieces which are reproduced as different objects by

Conrady, Taf. III:2 and 7). No. K. 11227:17 is made of a dark-brown siliciferous, slightly flamy stone. They are all flat on one side and slightly convex on the other. The nicely polished specimen of opalescent chalcedony (Pl. IX:7) is symmetrically biconvex, and if the hole were not so big its finer execution would indicate its having been used as a bead.

Conrady III:1 is the only indisputable spindle whorl made out of a potsherd (of light greyish colour, probably Han ware). The less regularly shaped Pl. IX:6 as well as three irregular discs (Conrady III:5—6 and No. K. 11227:9), made of metamorphic slate, are better described as sinkers or weights.

Finally, there is one half of a spindle whorl, Conrady III:4, of bitumen, and the very small whorl Pl. IX:8 of uncertain use is of the same material.

Spindle whorls of this kind of material have been found by Stein, Hörner and myself in the Lop nor desert. Already in neolithic times they were manufactured from potsherds in China, and this is still being done. Their very common occurrence in eastern and central Asia is too well known to be worth mentioning.

The four small lead discs, *e. g.* Pl. IX:10, pierced in the middle, probably served as sinkers for fishing nets. Stein has found about ten more, and Hörner two of them in these regions. Stein describes them as spindle whorls, but this must be incorrect since the hole is too small to admit the peg, and the disc is certainly not large enough to be used for spinning.

SPOONS.

From the Lou-lan area Sven Hedin brought back two fragmentary bronze spoons (and what may be the handle of a third).

Pl. XIV:10 is the better part of an egg-shaped bowl, fairly shallow but otherwise of very much the same appearance as the spoons of to-day. Of the other one, Pl. XIV:9, only the base of the bowl and the lower part of the handle are preserved. The bowl is nearly flat and the handle is very thin.

No. K. 11228:536, a slightly curved bronze rod with square section and tapering upwards, might very well be the handle of a spoon similar to the last mentioned one; its patina is of the same greenish character. In the catalogue it is described as originating from Khotan, which may be an error.

There are several other bronze spoons known from Eastern Turkestan, but from the Lop nor region Stein has only one trifling fragment.¹ Two others² are apparently of the same type as Pl. XIV:9.

Models such as Chotscho Pl. 64 e, Innermost Asia, Pl. X, Kha. 053 and Badr. 0114 and Serindia, Pl. VII, Khot. 0046,³ on the other hand, seem to be more recent.

¹ Innermost Asia, Pl. XXIV, L.M. 0144.

² Serindia, Pl. XXXVI, N.XLI. 5 and Anc. Khotan, Pl. LI, D.T. 001a.

³ One of the same kind excavated from 4th—5th century ruins at Taxila. Marshall: The Stupas and Monasteries at Jaulian, Pl. XXVII h.

Among the Ordos bronzes the spoon is a common utensil. Some of these spoons are rather large and have served for eating purposes, while others are smaller, mostly with fancy handles. The bowls of the former are circular or oval and have a rather well developed cavity. The handles are adorned in different ways, either with geometrical patterns or with animal representations, often with pendants.¹ None of these or of the other Ordos spoons known to me have such a simple handle as the Lou-lan spoon Pl. XIV:9 and no connection seems to exist between the former and the latter.

In the time of the Roman Empire spoons of bronze and silver were very common, and these seem to have simple handles more corresponding to that of our Lou-lan specimen. See, for instance, Flinders Petrie: Tools and Weapons, Pl. LXXIV: 92, 93 and 102, all of which are Roman or probably Roman.

Besides the two bronze spoons there is a wooden one and another made of horn. The former, Pl. XIV:8, found at the Lou-lan station, is quite straight, has an absolutely flat »bowl« and a rudely cut handle. The latter, Pl. XIV:11, has a more oval bowl and moreover is slightly hollow. It is much worn; the handle is unexpectedly long, slightly curved and has a semicircular section. Conrady depicts only the bowl which he describes as being of wood. (Taf. VII:6).²

Stein has found several spoons of this kind, both of horn and of wood, in the Lou-lan area,³ and from the Tunhuang *Limes*. In the ruins at Etsin gol, dating from the Han dynasty, wooden spoons were extremely common and usually of the same flat type as that mentioned above, but no bronze spoons were discovered there.

These flat spoons must have been used for semi-liquid food. Specimens with better developed bowls did exist side by side with the flat ones.⁴

COINS.

Conrady treated the coins more in detail than any other group of the smaller objects. Below I give a list of Dr. Hedin's coins; it includes a few more than are shown on Conrady's Taf. I.

1	Khotan issue, lead (all the rest are of copper).....	Pl. XV:1
1	Ta-ch'üan-wu-shih, fragm.	» 2
6	Huo-ch'üan.....	» 3

¹ J. G. Andersson: Hunting magic. Bull. 4 of The Mus. of Far East. Ant., Pl. XVII and Selected. Ordos bronzes in Bull. 5, Pl. II—III.
² Through some inadvertence the bowl has been labelled as No. K. 11227:137 and the handle K. 11237:1.
³ Serindia, Pl. XXXV, L.A.VI.ii. 0017—18, L.B.IV.1. 003. Innermost Asia, Pl. XXI, L.D. 06 and Pl. XXVI, L.M.I.ii. 02.
⁴ For instance Hamada: The tomb of painted basket, Pl. LXVI. Also specimens from Etsin gol.

25	Wu-ch'u.....	Pl. XV:4—5
13	» » fragm.....	
3	Fragm. with one »Wu», probably of Wu-ch'u.....	
6	Wu-ch'u without outer rim	» 6, 8
1	» » » » » fragm.....	
1	» » fragm. with reversed legend.....	» 7
12	No legend, in some cases effaced legend.....	» 9—11
14	» » fragm. (5 of them might very well be of Wu-ch'u)	
26	»Goose-eyes».....	» 12—13
3	» » fragm.....	

Besides the above-mentioned lead coin issued in Khotan Conrady knew of two more of the same kind. We can now add a fourth specimen from Yotkan.¹

The Ta-ch'üan-wu-shih and Huo-ch'üan are both Wang Mang issues, the former having been put into circulation in A.D. 7, the latter in A.D. 14.

Conrady has overlooked a fragmentary Wu-ch'u, Pl. XV:7, a specimen of particular interest since it is the only one known from Lou-lan with the legend running from left to right; moreover in the »ch'u» the position of radical and phonetic is reversed. This arrangement of the characters seems to be rare among the Wu-ch'u; some specimens of this kind are to be seen in *Ku-ch'üan-huei* and in *Ku-ch'üan-ts'ung-hua*.

As in the case of the ordinary Wu-ch'u we are left in uncertainty as to the absolute age of this coin. The former were in circulation for a considerable time, the first issue being made in B.C. 118. The coins represented in Pl. XV:4—5, 38 specimens of which are found in the Hedin collection, are certainly issues of the Han dynasty or of the immediately succeeding period.

The Wu-ch'u with the outer rim missing could hardly have been clipped but have most probably been worn down to their present condition.

Regarding the so-called Goose-eyes (other names for these debased coins are »dove's eyes», »thread rings» and »unsinkable lads») Conrady denies the existence of this kind of »coin» among the Lou-lan finds apparently because they were said to have been current as late as A.D. 465—588, suggesting that the small specimens in Pl. XV:12—13 are ordinary ones clipped as much as possible. This theory does not tally with the small size of the holes. If carefully studied most of these coins will be found to have been cast in their present shape, and not to have been clipped at all. Terrien de Lacouperie,² moreover, makes the following statement regarding ordinary »clipped» coins, and it has also a bearing on the »goose-eyes». »Then he (Emperor Hsieh Hien ti) issued 5-tchus cash of the usual design, but without outside rims; the reason of this innovation

¹ SerIndia, Pl. CXL:38.

² Catalogue of Chin. coins, p. 399.

being that it could not make any difference to the people, as the rim of the former currency was usually clipped off.»

I quite agree with Stein's opinion regarding the chronological position of the »goose-eyes» found by him at the Lou-lan station, though his statements about the clipping might require some amendment.¹ »We have here clear archaeological evidence proving that such clipped pieces must already have been extensively in circulation during the latter half of the third century A.D., and that the view which would attribute the introduction of these thin coins to the short-lived reign of Fei-ti, A.D. 465, and his successors of the Sung dynasty, is misleading. There seems good reason to believe that Chinese numismatists, too, are cognizant of these much-clipped pieces going back at least to the reign of Hsien-ti, the last emperor of the Later Han-dynasty, A.D. 189—220. In reality the process of constant debasement to which this quasi-subsidary currency owes its origin is likely to have set in far earlier.»

The coins in Hedin's collection were picked up at different ruins and most probably along the routes as well.

Stein's collection embraces the same Chinese coins as Hedin's, save the Ta-ch'üan-wu-shih; instead he has a Hsiao-ch'üan-chih-i, also an issue of Wang Mang.

Hörner's large coin collection from the Lop desert comprises only Wu-ch'u and some few »Goose-eyes.»

Conrady mentions as an addendum (p. 181) that he remembers having seen a Roman coin among the Lou-lan objects when they were still in the care of Prof. Himly. Later on he failed to recover it.

Considering the presence of other goods of Western origin at Lou-lan it is not impossible that such a coin was found there, especially as Roman coins have reached much further east, *inter alia*, sixteen Roman copper coins of the years 270—275 found in Shansi.²

Of all the coins found in the Lou-lan region only a single one is of non-Chinese origin, the lead coin from Khotan. Even that, however, bears a legend which reflects Chinese influence.

This rich frequency of Chinese cash is one of the best proofs of there having been heavy traffic and lively business going on along this highway, for the protection of which the Lou-lan station was no doubt erected.

ARROW-HEADS ETC.

Among the bronze objects may be noticed seven arrow-heads of three different types: one of them is leaf-shaped with socket, two are three-winged with sockets, and four are triangular with tangs.

¹ Serindia, p. 385.

² Bushell in Journ. of the Peking Orient. Soc. I (1885) p. 17 f. Also discussed by Hirth in Hunnenforschungen, p. 12. Some authors favour the opinion that these coins have reached China by the sea route.

Pl. X:1 is leaf-shaped. The socket is well developed, has a marked central rib and is longer than the blade. Regarded as a type it occurs already during the earliest part of the European Bronze Age (though usually as a spear-head and not as an arrow-head). As an arrow-head we meet it in the Hallstatt culture,¹ in Siberia,² Mongolia³ and China.⁴ From Lop nor one other specimen is known.⁵

The three-winged arrow-heads. (Pl. X:2—3) have a more complex shape; the former especially, in which the bases of the wings form barbs, is very elegant. Its socket has three slit-like openings between the blades. In the other one these apertures are so wide that the head of the shaft must have protruded through them; moreover, nearer its base the socket has a small round hole through which a rivet has fixed the shaft in position.

This type seems to have been far more common than the one first described. Some scholars call it Graeco-Scythian.⁶ Conrady also notices the likeness between these arrow-heads and the three-winged ones from Hallstatt (p. 170), a fact that has later been emphasized and further commented upon by Olof Janse.⁷ In particular Pl. X:3 has many traits in common with Janse's Pl. IV:10 (from Hallstatt). This type is also very common in Hungary, Southern and Eastern Russia,⁸ Siberia,⁹ and the borderland between Mongolia and China (in the Mus. of Far East. Ant. there are some 50, most of them from Chahar). In the sepulchral find from Luan P'ing in the province of Jehol five of these occur,¹⁰ a deposit that has been dated in the first half of the third, or maybe the last half of the fourth century B.C.

In Europe they seem to occur from about 500 B.C. From Eastern Turkestan I know of five other specimens.¹¹ It is evident, however, that they do not occur either among the finds from Stein's Tunhuang *Limes* or in the Han-period ruins at Etsingol. It is not impossible that this type of arrow-head has been used especially for hunting purposes, though there is no actual proof of the correctness of this supposition. These arrow-heads are mostly lighter than the triangular type, which will be described below. Conrady comments at some length on p. 170 seq. upon

¹ Ebert's Reallexikon V, Taf. 19:18.

² Martin: L'age du Bronze, Pl. 26:6—11.

³ At least two specimens from Chahar in this museum.

⁴ , , , , Honan , , , and several others from Mongolia and China with unknown place of origin.

⁵ Innermost Asia, Pl. XXIII. L. 1.05.

⁶ E. g. Ebert in Praehist. Zeitschr. 1913, p. 12.

⁷ Quelques antiquités chinoises d'un caractère Hallstattien, Bull. 2 of the Mus. of Far East. Ant., p. 181.

⁸ Grakov in ESA 4, p. 175 Fig. 7d.

⁹ Martin: L'age du Bronze. Pl. 26:23, 24, 26.

¹⁰ Arne: Die Funde von Luan P'ing und Hsuan Hua. Bull. 5 of the Mus. of Far East. Ant., Pl. III:1—2, 4—5, 8. The last mentioned very much resembles our No. K. 11227:18.

¹¹ Stein: Anc. Khotan, Pl. LXXIV, N. 0014. c.

Serindia, Pl. XXIX, N. XIV. 008.

Innermost Asia, Kum. 01; C. XCVI. 013 and Pl. XXIII. Lal. S. 015 (from Lop nor).

he significance of the holes that are to be found — 1-3 in number — on the socket between the blades. If a conjecture may be made in this connection I should prefer to consider the alternative of the holes' having been made merely to save metal and thus make the points lighter.¹

The most common arrow-head of the Han dynasty was the triangular one with a short hexagonal shank and an usually long iron tang for fastening the point into a cane or a reed. In many cases there are one to three triangular grooves on the flat sides. If the Chinese really used poisoned arrows, — a suggestion put forward by Conrady (p. 169f) —, it is more likely that the poison was administered in grooves like these than in the »Giftrinnen» on the two three-winged points, described above, as suggested by Conrady. But these are all mere hypotheses.

This type is pretty heavy and has apparently been used as a cross-bow arrow. In the Tunhuang *Limes* as well as in the contemporaneous ruins at Etsin gol they were found not only as detached arrow-points but also fixed in their shafts, which are too short to be arrows for an ordinary bow but very suitable for a cross-bow. Both cross-bows and ordinary bows were used at Lop nor. Stein has a bolt for a cross-bow mechanism (Serindia Pl. XXXVI, L.A.II.v. 002) and Hörner found a complete mechanism (No. K. 13427). Two bows, one of wood and the other of bone plates, were discovered by Dr. Hedin in 1934 in a collective grave in the actual delta of Kum darya.

Hedin collected four specimens, two of a shorter type (Pl. X:6—7) and two of a longer type (Pl. X:4—5). Stein and Hörner collected a good many of this type in the Lop nor region.

In the detached fortress of Ming-shui in central Pei-shan only this type of arrow-head was found.

It is also well known from China proper, Southern Inner Mongolia, Corea and so forth. It occurs less abundantly in Siberia and South Russia. Several scholars call it simply a »Scythian type».

Originally the arrow with a triangular head was invented by the Iranians and spread by them over the whole of the ancient world, where it became very common between the sixth and the third century B.C. (according to Rostovtzeff).² The Chinese might have received it through the intermediary of the Sarmatians. Rostovtzeff does not credit the Huns with any kind of civilization and holds that all that China has acquired through them is attributable to the Sarmatians. Yetts seems to be not so fully convinced of the role of the Sarmatians in this connection.³ However, Rostovtzeff makes no distinction between the many different types or varieties of triangular arrow-heads, and it must be remembered that triangular

¹ Stein did find a »bird-arrow» (Serindia, Pl. XXXV, L.B.IV. 005) made only of wood, and this weakens the suggestion of Conrady that some bronze arrow-heads were intended for bird shooting.

² Iranians and Greeks, p. 122.

³ Burlington Magazine, Oct. 1933, p. 184.

arrow-heads were already in vogue in China during the Yang-shao stage, *i.e.* about B.C. 2000. They were then made of bone and slate, and I would hazard a guess that the real prototype of all triangular arrow-heads was the one made of bone.

A two-winged iron arrow-head, Pl. X:8, with a long tang has hitherto escaped attention, though it is reproduced in Conrady Taf. V:3. Whether the edges of the wings originally had concavities or whether these are the result of corrosion it is impossible to decide.

Another iron arrow-head also probably originates from this region, though it is labelled as having been found in Khotan. It bears the number K. 11228:525 and is three-winged, now badly corroded.

Stein also has an iron arrow-point from the Lou-lan station with long tang and the head triangular in section,¹ and in Hörner's collection a similar one though small and with square section originates from the same locality (No. K. 13348:43).

Besides the arrow-heads there is only one other object in Hedin's collection that has any connection with arms. I refer to the fragmentary bronze socket reconstructed in Pl. X:13. In Conrady's Taf. IV:3—4 the parts have been reproduced separately and labelled as iron. It has been the ferrule to the lower end of the handle of a *Ko*-weapon. The section of the tube is bulbous there being an edge-shaped ridge on one side and diametrically opposed to it a flat ridge. 20 mm from the bottom is a rectangular hole, 25×8 mm., through each ridge. The diam. is only 22 mm.

Usually these holes for fastening the wooden handle are round, in many specimens they are wanting. Ours is a very poor representation of this large group of objects, but in far-away Lou-lan one can hardly expect to find such magnificent pieces of Chinese art as those which are recovered from the earth of China proper.

In The Mus. of Far. East. Ant. there are several examples both of simple and of most elaborate execution. Some of them have one or two bands arranged horizontally.² Apparently they were in use during the Han dynasty and earlier.

South of Yardang bulak in the Lop desert I found a plain specimen such as the one above, and in my Etsin gol collections there is still another.

BELLS.

There are four specimens of small globular bronze bells with a loop for suspension and a narrow, slit-like opening, Pl. XI:7—8.

¹ Serindia, Pl. XXIX. L.A. VIII-IX 008.

² For inst. the beautiful handle with chased silver ornaments in Bulletin 6, Pl. XLVI:5.

From the same region Stein brought back another four samples,¹ and they are known also from other places in Eastern Turkestan.²

Several of these small »cat-bells« have been found in north-western Kansu and at Etsin gol, and in The Mus. of Far East. Ant. there are more than a dozen originating from North China and Southern Inner Mongolia. One sample was found in Korea,³ dating from the Han dynasty.

In Europe they seem to have been common during later periods, for inst. among the Slavic and Finnish people of Russia.⁴

These small bells appear to have belonged to the personal adornment on the dress. In one of the many beautiful and rich mural paintings in the grottos of Bâ-zâklik in the Turfan region there is depicted a Brahman with a ribbon round each ankle and tied on to these ribbons are seven or eight small bells of the kind just described.⁵ This circumstance does not exclude their having possibly been used as animals' bells as well.

Pl. XI:5 is a small conical bronze bell, decorated with two pairs of horizontal incisions. Hampel, Taf. 516:3:1 is a similar specimen but undecorated. Several bells of this kind are sometimes placed on Scytho-Sarmatian pole-tops etc.⁶

Undoubtedly of Chinese origin is the type of bell represented by the fragment in Pl. XI:10.⁷ The flat top has had a wide and fairly high loop for suspension. The section of the bell is lenticular, the lower rim forms a marked concavity on both sides, and along this rim there are two elevated lines with a zigzag line between, forming a wolf-tooth pattern. The clapper is 16 mm. long, has a large eyelet and has become fixed to the upper part of the bell by corrosion.

Innermost Asia, Pl. XXIII, C. xciii. 074 might be a fragment of a similar bell (described only as a fragment of bronze plate).

Another, somewhat larger bell in a fragmentary state of preservation is shown in Pl. XI:11. The suspension loop is rounded and worn, but otherwise this bell has probably been of exactly the same type as the former one.

Stein has two fragmentary ones reproduced in Serindia.⁸

Bells like Pl. XI:10 have been regarded by Chinese numismatists as a kind of barter money, an opinion favoured also by some Western students.¹ There is no

¹ Serindia, Pl. XXIX, L.A. 00103—00105. Innermost Asia, Pl. XXIV, L.M. 0131.

² Anc. Khotan, Pl. LXXIV, N. 004.e, (should be 0014.e) 0012a.

Serindia, Pl. XXIX, N. 0010 and E. Stupa 007—8.

Innermost Asia, Yul. 03 and Kucha 021.

³ Harada: Lo-Iang, Pl. XCI:3.

⁴ Tallgren: Coll. Zaouss. II, Pl. VIII:10—11.

⁵ Von Le Coq: Chotscho, Pl. 29, the lower left corner.

⁶ Ebert's Reallexikon XIII, Taf. 35D:a.

⁷ For similar ones see for instance Arch. Res. in the anc. Lolang Distr., Plates Part 1 (1925). Pl. 53:363 and Ost. Zeitschr. 1925, p. 288.

⁸ Pl. XXIX, N. XXXV. 004 and E.Ft. 0023.

necessity, however, to consider the two samples from Lop nor as anything but real bells, as they are big enough to have served as such.

STRAP FITTINGS ETC.

Pl. X:14 is one half of a small four-spoked bronze wheel. Similar objects are known from southern Chahar,¹ from Minusinsk in Siberia,² from south-eastern Russia⁴ and from Hungary.⁵

As to their chronological position in Inner Mongolia and Siberia we know nothing definite. The European finds, on the other hand, are ascribable to certain periods. In South Russia they have been found in connection with Scythian objects, and in Hungary they commonly occur in graves of Sarmatian warriors. This circumstance makes it highly probable that the Asiatic wheels belong to the big group of Siberian-Scythian and Ordos bronzes. The Lou-lan specimen affords chronological evidence of this.

In Hungary they are found on the middle of the chest of the skeletons and are therefore regarded as fittings for two crossing straps. Grakov believes that they have been used on the attachment to the sword.

Our specimen does not show any traces of wear, and consequently nothing definite can be stated as to its proper use.

The flat bronze button Pl. X:15 probably belongs to the Ordos bronzes.

In the collections of The Mus. of Far East Ant. are found a couple of similar objects, purchased in Shansi and (probably) Inner Mongolia. Fig. 6 is almost identical, though made of thinner material, and more strongly moulded and carrying only eight dots round the central disc. Some of these buttons are paired by means of a crosspiece. (Mus. of Far East. Ant., Inv. No. K. 11043:6).

Similar small buttons without the plain outer rim are still more common among the Ordos bronzes.⁶ The same kind of ornaments are also found on other bronzes from the Caucasus⁷ and from Ordos.⁸



Fig. 6. Bronze buttons in The Mus. of Far East. Ant. Inv. No. K. 11036:299, 11036:300.

¹ Ramsden: Chinese early barter and uninscribed money, and Schlösser in Ost. Zeitschr. 1925:283. The latter seems to be ignorant of the first-mentioned booklet.

² K. 10117:4 of this museum.

³ Martin, Pl. 30:3,5 and 6. They are here called «pendeloques».

⁴ Grakov in ESA 3, p. 29, Fig. 6.

⁵ Hampel I, Fig. 879.

⁶ J. G. Andersson: The hunting magic, Pl. XXIX:1 b.

⁷ Tallgren: L'époque Ananino, Fig. 110.

⁸ J. G. Andersson, *op. cit.* Pl. X:5, XI:4—5 and XII:4.

A bronze buckle (Fig. 7) found by Hörner in the desert between the present Lake Lop nor and the now dried-up Kara koshun is of a type corresponding to buckles among the Ordos bronzes and kindred cultures. Instead of having a tongue as in the case of the buckles of to-day, it is fitted with a knob on top of the front part of the ring for fastening the strap. Strange to say, this knob is turned inwards instead of outwards.

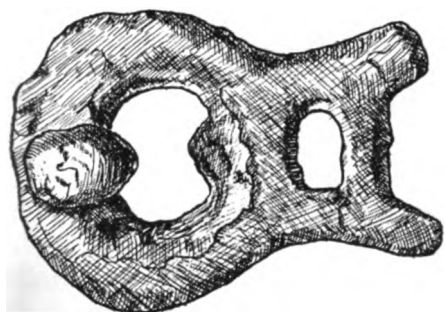


Fig. 7. Bronze buckle.
Inv. No. K. 13355. 1:1.

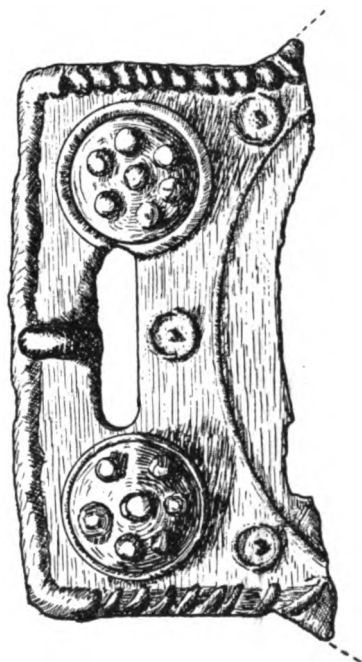


Fig. 8. Part of a big bronze buckle or plaque. Inv. No. K. 13416. 1:1.

A wooden buckle of this construction, with the point rightly turned outwards, was found by Stein near Lou-lan.¹ And Dr. Norin of the Sven Hedin expedition has discovered a fragment of an unusually large belt buckle (or maybe plaque) with Ordos-style designs and with a projecting hook for fastening the strap (Fig. 8). It was found about 7 km. to the south of Astin bulak, viz. not very far to the north of the northernmost branch of the present delta.

No bronzes decorated with the animal style are known from Eastern Turkestan, save a plaque that was purchased at Kashgar and is now kept in the Hermitage. It is stated to be of the Scytho-Sarmatian style. Minns² is of the opinion that it has been brought there in modern time, but this idea is rejected by Pelliot.³ However that may be, there are among the finds from Lop nor a few smaller objects

¹ Innermost Asia, Pl. XXIX, L.C. IV. 02.

² Ant. Journ. 1930, p. 6.

³ Documents, 1, 1929, p. 18.

which are closely related, as suggested above, to the Ordos bronzes, and this fact lends support to Pelliot's statement. The bearers of this culture, according to the commonly accepted view, were the Hiung-nu or Huns. As clearly stated in the Chinese annals, the Hiung-nu dominated the Tarim basin politically during several periods, and especially the people of the Lou-lan kingdom were in intimate contact with them. One would really have expected to find many more Ordos bronzes in the Lou-lan region. Their paucity indicates that the Hiung-nu never dwelt inside the border of the Tarim basin but acquired their sway over the oasis-states more through raids and thanks to the superiority of their military forces than as a result of peaceful intercourse.

Of the other small bronze objects in Hedin's collection a few more have probably been attached to the belt as ornaments. Pl. X:12 is a flat tongue having protected the end of a strap, and Pl. X:10—11 and Conrady II:54—55 have also formed attachments to a belt or strap; the same may apply to Conrady II:44 and No. K. 11227:316.

The small square, flat object in Pl. X:9 with a longitudinal hole may also have had some function in connection with the belt. In any case it has no engraved animal representation as is suggested by Conrady.

The simple, rather flat boss in Pl. XI:1 has probably been attached to a strap in the same manner as the shell ornament in Pl. XV:19.

The somewhat larger fragmentary boss of copper with pressed pattern, Pl. XI:2, has been either an ornament or a cover to some small vessel. I do not know the original object, only Conrady's reproduction.

In this connection we may mention some other bronze bosses.

There are four small hemispherical bosses with projecting flange at the base: two of them, Pl. XI:3—4, have a central pin or tack, a third, Pl. XI:6, has a central hole (probably after a broken-off tack) and the fourth, too, has been fastened in the same way with a tack.

Stein found a casket of lacquered wood at Lop nor,¹ at the bottom of which, in each corner, was a bronze boss of the same kind as those described above. In this case they functioned as »feet». They may also have been used as mere ornaments in the same way as they are still used on Corean chests, for instance.

In The Mus. of Far East. Ant. there are many parallels to these bosses, but as a rule the flange is less accentuated.

This type with a central pin should be distinguished from the otherwise identical bosses that have two big loops or a crossbar at the rear side and have been attached to horse-trappings.²

¹ Innermost Asia, L.M. 1.01-4 (Pl. XXV).

² For instance, J. G. Andersson; Hunting magic, Pl. XV:4.

RINGS, HAIR-PINS ETC.

There is only a fragment left of No. K. 11227:123, but there exists an old photo Pl. XI:12, of the complete ring; thus we get an idea of what kind of a ring it was. Apparently it bore an incised linear design on the bezel, though unfortunately it cannot be discerned because of the worn state of the ring. This may have been used as a signet. Stein found a similar one at Lou-lan station¹ and several at Niya. Their general appearance is non-Chinese.²

The small carnelian intaglio Pl. XI:9³ with a standing Hermes (?) of rather inferior execution was no doubt inserted in a finger-ring, and was probably imported from the West (the Roman Empire?).

The fragmentary ring Pl. XI:16 might be regarded as an ear-ring on account of its construction, with a slender loop for fastening the other end by its hook (now lost); on the other hand, the flat, band-like shape of the ring makes it more suited as a finger-ring; the size is just that of a finger.

A somewhat similar ear-ring of gold has been found in South Russia. It is dated to the very beginning of our era.⁴

The somewhat broad bronze rings with ribbed surface Pl. XI:13—15 and K. 11228:514 (the two last mentioned fragmentary) have been used as finger-shields. Stein found several in the same region, and at Etsin gol I recovered a good many from various ruins. This type is common in the Han dynasty as well as in later periods, as a matter of fact it is still used in nearly the same shape.

A small fragment of a finger-ring of white stone, K. 11227:282, is not mentioned by Conrady.

The hair-pins, represented by five specimens, may be regarded as personal ornaments. Only Pl. XII:13 is complete and undamaged, the others are fragmentary or deformed. They are made of round, rather thick bronze wire; the shanks are very long. The complete specimen, Pl. XII:13, is 124 mm long and 10 mm broad. At the bend the wire is broader than in the shanks, and is concave on the inside.

Pl. XII:15 is much broader than the others.

Similar hair-pins were found amongst the numerous ruins to the north and north-east of Khara khoto at Etsin gol, *i. e.* in the district of Chü-yen of the Han dynasty.

In the collections of The Mus. of Far East. Ant. there are several of this kind, one of them originating from Honan (Inv. No. K. 10169:4).

In literature we come across them, for instance, in *Ars Asiatica* VII. Doc. d'Art

¹ Serindia, Pl. XXIX, L. A. 00107.

² In the catalogue of The Mus. of Far East. Ant. the bronze signet-ring K. 11227:35 has been labelled as originating from Lou-lan. Conrady does not mention it, and the patina differs from that of the Lou-lan objects. I have therefore omitted it.

³ For enlarged reproduction see Conrady and Herrmann.

⁴ Ebert in *Præhist. Zeitschr.* 1913, Fig. 93 Bc.

Chinois de la Coll. O. Sirén, Pl. XX, and in Martin: *L'Age du Bronze au Musée de Minoussinsk*, Pl. 31: 58.

Exactly the same model, though made in laquered bamboo instead of bronze, occurs in Korean graves of the Han dynasty.

Hair-pins of this type and size existed already in the 3rd. period of the Italian Bronze Age but were then made of wire of uniform thickness.¹

The ear-pendant Pl. XIII: 14 is of a more delicate make than any of the other objects. The upper part consists of a hook of gold wire, at the base of which a drop-shaped piece of carnelian² is set, and at each side of this there is an S-shaped wire. Suspended from this upper part by means of a joint is a hexagonal bead of emerald-coloured glass set in six flat gold ribs. At the top of this bead there are two small pearls (at the ends of a small straight wire forming the joint between the upper and lower part) and at the lower end a bunch of four similar pearls.

This exquisite ornament is apparently of a Western type, to a certain degree corresponding to pendants of Greek and Hellenistic make.³

A pendant found by Stein⁴ has more of a Chinese style.

A fragment of a small leaden ring, not mentioned by Conrady, with an indistinct moulding (No. K. 11227:283) has probably served as an ear-ring.

Pl. XII: 5 is a fragment of an arched bronze wire, flat on one side and with the other side decorated with a row of small relief circles. It is broken off across a hole at each end, and there is still another hole through the bottom of one circle. This might have been an attachment either to a leather strap or to a garment.

BEADS.

The beads are made of many various materials, *viz.* glass, paste, amber, shell, stone and gold.⁵ There are also small fragments of turquoise from beads or from some cloisonné-work.

Before glass and paste came into use beads were manufactured of stone, shells, bone and similar materials. Carnelian in particular was highly appreciated, even after the introduction of glass. These kinds of beads were made locally. At any rate,

¹ Montelius: *Die vorklass. Chronol. Italiens*, Taf. XII: 21—22.

² According to kind information from Prof. G. Aminoff.

³ Fig. 290: 19 in Minns: *Scythians and Greeks* reminds us, in its main features, of the Lou-lan ear-ornament; instead of a ribbed bead the lower part in the Greek specimen is formed of a gold amphora. Fig. 296 also shows some similarities.

In the third cent. A. D. we find reminiscences of the same type in the middle of the lower part of an ear-pendant found in NW. India (Vincent Smith: *A history of fine art in India and Ceylon*, Pl. LXXIII: 13). Also reproduced in *Geschichte d. Kunstgewerbes* III, p. 195, where it is regarded as Hellenistic.

⁴ Innermost Asia, Pl. XXIV, L. K. Fort 07.

⁵ Conrady erroneously mentions 'Tons', clay.

this was the case at Etsin gol, whence grinding stones with furrows as well as half-finished beads originate. The glass beads, on the other hand, were imported to these far away regions probably both from the West and from the East.

From Lou-lan there are six complete and eleven fragmentary beads of carnelian, the majority of them being spheroids, Pl. XIII : 36—41.

Pl. XIII : 20—22 shows the three amber beads, the material of which must have been imported either from Kashmir or from some Western region, and Pl. XIII : 23—29 all the seven that are made of *Quadrula* shell.

The bead Pl. XIII : 6 is manufactured of lapis lazuli. The region in which this mineral is best known to occur is Badakshan.

One half of a glass bead, Pl. XIII : 7, blue and with a channelled surface, is of a perfect Roman form. Stein collected three more of this kind in the Lou-lan area.¹

Six glass beads are of a flattened spheroid shape, Pl. XIII : 30—35. One of them is colourless and transparent, the rest dark blue. There are, besides, three fragmentary ones of the same kind.

There are also some samples of moulded glass beads of a more elongated shape. Pl. XIII : 8 is a white one and Pl. XIII : 9 a blue one, each with a notch near either end. (They might also be regarded as triple-beads consisting of a spheroid member with a discoid one added on each side.)

Pl. XIII : 15 is of the same shape but still more elongated, and Pl. XIII : 16 is a double-bead, each member being of the same shape as Pl. XIII : 8—9. These two last-mentioned ones are made of gilt glass, and this is also the case with Pl. XIII : 17—19, three beads of a somewhat flattened spheroid shape.

There are three more double-beads, two of which are honey-coloured with traces of having been gilt, while the third is bluish green, Pl. XIII : 11—13.

A more peculiar form is represented by Pl. XIII : 10, a dark blue glass bead in the shape of a carinated tumbler. Some interest attaches to this particular type, sometimes called »capstan bead», because it has been found in well dated Han dynasty tombs at Lo-lang in Corea, where it has been possible to determine their original application with some certainty. The bead was evidently inserted in the ear-lobe; through the hole ran a string, carrying a hemispherical bead.² The tumbler-shaped object has thus been an ear-plug, a sort of »lining» for the hole in the ear-lobe. Many of the specimens mentioned below seem to be somewhat long for this purpose.

Among the discoveries published by White³ is one of these glass beads, and if it really originates from one of the sepulchral deposits of old Lo-yang, its high antiquity is noteworthy.

Many other parallels are known from the Far East, and Stein has also found

¹ Innermost Asia, Pl. XXIV, L. A. 0110 (and 023); L. K. 0107.

² Harada: Lo-lang, Pl. XCI: 4, CXV: 3, CXVIII: 2, CXIX: 3 (and Fig. 32 from China proper).

³ Tombs of old Lo-yang, Pl. CLXV: 451.

one in the Lou-lan station.¹ The colour is always blue, apparently. In *The Mus. of Far East. Ant.* there are two beads of this kind made of turquoise (Inv. No. K. 11000: 108—109), and specimens of bone are known from the Yin dynasty.² Apparently this type is of Chinese origin.

Two fragmentary glass beads show less conventional forms than the main bulk. No. K. 11227: 267 has been an elongated multilateral bead of dark yellow glass, and the other is depicted in Pl. XIII: 1. It seems more likely that this latter object is not half of a round disc with a large diametrical hole but that it was fastened, in its present shape, to a rod or something similar. Dr. Bohlin found an absolutely identical object of the same yellow glass in connection with some small bronzes of the Han dynasty in one of the towers of the Tunhuang *Limes* (Inv. No. K. 13473: 3).

Three more fragments of more or less spheroid form are also of glass and so is the small lentoid specimen (No. K. 11227: 254). The paste bead No. K. 11227: 255 is of the same shape.

A rectangular yellow paste bead is seen in Pl. XIII: 3, and Pl. XIII: 4 is a fragment of a spheroid green-blue paste bead with an inlay, shaped like a small eight-petalled flower, composed of four colours.

Finally there are eight complete and two fragmentary beads of glass and paste of small size and various shapes and colours not reproduced here.

Besides the ear-pendant, only one more object is of gold: a large hollow bead, nearly globular and with big holes, Pl. XIII: 5. It is made of two joined halves.

From the Lop nor area Stein has also recovered two gold objects.³

Nowadays gold is found in most of the bigger river-beds emerging from the K'un-lun, but whether these localities were known and worked already at that time we cannot decide with our present knowledge.

As to the beads in general, many parallels might be taken from various regions because such petty ornaments have nearly always been highly appreciated everywhere, but very little can be gained from studying only monochrome reproductions. Beads dating from the second century A. D. have been found in the isle of Gotland in the Baltic originating from the Roman provinces and corresponding in every respect to some of the Lou-lan beads.⁴

Considering the frequency of hairpins, ear-ornaments and beads it seems as if the fair sex had been rather well represented in the far-off colony of Lou-lan.

SHELLS.

In Dr. Hedin's collection there are four cowries, Pl. XV: 14—17. Three of them have the dorsal portion ground off, the fourth one, on the other hand, has a hole

¹ Serindia, Pl. XXIX, L. A. 00139 a.

² Relics of Han and pre-Han dynasties. Pl. V: 4.

³ Innermost Asia, Pl. XXIV, L. C. 022 and L. F. i. 02.

⁴ Almgren und Nerman: Die ältere Eisenzeit Gotlands, 218=Pl. XIII: 15, 220=Pl. XIII: 11—12 and 222=Pl. XIII: 7.

drilled through the pointed end. It is worn by a ring or wire from which the cowry has been suspended.

They are all of the *Cyprea moneta* species, according to a determination kindly made by Dr. J. R. M. Bergenhayn of the Invertebrate Department of the Riksmuseum. Conrady erroneously classifies the three last mentioned as bivalves (»Muscheln, vermutlich Kauri, mit Ausnahme von No. 18 (= Pl. XV: 14) die nur am oberen Ende durchbort ist«).

The use of the cowry as current money had and still has a very wide distribution, and it is known to have just as widely been appreciated as a charm, amulet or magic symbol of a similar kind; its estimation as a precious object being primarily due to its resemblance to the female organ of reproduction.

J. W. Jackson has treated this very interesting subject in his »Shells as evidence of the migrations of early culture«, and Prof. Karlgren¹ and Prof. J. G. Andersson² have also paid much attention to the fascinating problems connected with the use of this small shell. I take the liberty of quoting the first paragraph of Elliot Smith's introduction to Jackson's book:

»In most places where shells are used it is not their decorative or aesthetic value to which primary importance is attached. Some arbitrary meaning that, in the course of ages, has come to be attached to or associated with certain shells determined the value assigned to them and impelled men to search for them far and wide and often at great peril. The cowry is widely belived to confer fertility on women and to help in the process of parturition. They are, therefore, worn on girdles by maidens, presented to them as bridal offerings, and used by sterile or pregnant women to attain these respective benefits. They are also put into graves to confer vitalising power and ensure the continuance of the deceased's existence, i. e., not merely life but also resurrection. They have been used as artificial eyes for mummies, and also as charms against the evil eye, and to bring good luck. Hence they are used for games of chance. They were probably the earliest form of currency.«

In China proper the use of cowries as current money had come to an end about the beginning of the Han dynasty, and when Wang Mang (A. D. 9—22) tried to revive its use as well as that of other archaic forms of currency, he was unsuccessful. In remote provinces the cowries were certainly employed as coins much later; Karlgren says down to the Mongol epoch and from Yünnan it is reported even in Ming time.³

In northern India cowries formed the bulk of the currency between the beginning of our era and the Mohammedan conquest of A. D. 1203, but remained in less frequent use until last century.

There has evidently been an Indian element in the population of Lou-lan, and these Indians may have used cowries as money; considering the very abundant

¹ Some fecundity symbols in ancient China, p. 34 ff.

² Children of the yellow earth, Chapt. 19.

³ Some fecundity symbols, p. 34.

finds of Chinese copper coins from this region, however, the probability of this assumption's being correct seems very small.

Of special interest in our case is the fact of the cowry's being a marine shell. Our four specimens must have been brought to Lou-lan from the far-away sea, from the coast of India or, less likely, from the South China coast. These seemingly insignificant shells are thus a proof, amongst many others, of Lou-lan's connections with distant regions.

There are also four objects made of pieces of larger shells (No. K. 11227: 43, 47, 53 and 132). Conrady supposes that they were possibly made of the shell of *Tridacna gigas*, which is still used in China for the manufacture of various objects. Dr. Bergenhayn has been obliging enough to undertake a microscopical examination of the shell objects in question, and determined the species as *Quadrula* for all four of them. The *Quadrula* is a fresh-water shell occurring in Eastern Asia and North America.

Pl. XV: 19 is a disc, with a hole drilled through the centre, in which an iron rivet is fastened. Stein found an identical disc¹ still attached to a leather band.

Pl. XV: 20 is one half of a somewhat smaller disc. They may have adorned some horse-trappings, a belt or some other kind of strap. Among the Tibetans and other tribes of Nan-shan similar small discs of shells are still in use attached to the long ribbon hanging down the back from the hairdress of the women.²

Pl. XV: 18 is a smoothed piece from the hinge-part of a *Quadrula* shell, and No. K. 11227: 53 is a plain piece of a similar shell.

The two first-mentioned objects have undoubtedly served as ornaments, though at the same time they might have had a magic or symbolic significance.

The seven beads shown in Pl. XIII: 23—29 are also made of shells of the same kind as those described above.

GLASS.

The Lou-lan collection contains fragments of broken glass vessels and glass beads, the latter already discussed in connection with the others beads.

Conrady describes only a small portion of the first kind³, whereas there are about 150 fragments.

Special interest attaches to those fragments that show traces of ornaments, which at that time were executed mainly in two ways: either as ground facets or as raised ribs, formed by means of applied glass threads.

Only three small fragments (No. K. 11227: 287—9) are decorated with fairly

¹ Described as made of bone; most likely it is the same material as the above. Innermost Asia, Pl. XXIV, L. M. I. ii. 023.

² Communication furnished by Mr. Gerhard Bexell.

³ Conrady: Taf. III: 29—36.

large ground ovals, and these three fragments most likely belonged to the same vessel of yellowish-white translucent glass.

Stein mentions a fragment of a large blown-glass vessel, yellowish-white and translucent, the outside ornamented with hollow-ground circles.¹ And in a grave at Ying-p'an in the western part of the Lop nor area he discovered a complete glass bowl with bands of hollow-ground ovals.² This small cup might just as well have been excavated from a Scandinavian tomb of the 3rd or 4th century A. D.³ The Ying-p'an vessel and those from Scandinavia have one and the same origin: the Roman Empire. According to Kisa,⁴ glass of this kind is found in Italian graves from the latter half of the 2nd century A. D., and in South Russia we know them as dating from around A. D. 300. The Scandinavian glass objects with ground ovals have been imported from the latter region, and those found in the old kingdom of Lou-lan were most probably manufactured in the eastern parts of the Roman Empire.

There are eight fragments of glass vessels with ornaments of laid-on threads of the same colour as the body. Primarily this technique was developed in Egypt, being much appreciated in late Roman time, manufactured in many different parts of the Roman Empire, and in widespread use. The Syrian and Italian glass-works were dependent on those of Alexandria. The Syrian glass is of a light greenish or yellowish colour. During the 2nd and 3rd centuries A. D. non-coloured ware predominated, and during the following century the colours used were limited to faint admixtures such as greenish yellow, yellowish green, olive green, light blue, yellowish white, but also dark violet, wine-red and greenish black.⁵

As to the fragments in Hedin's collection, the predominant colour is light greenish blue. A small number show a very faint violet tinge, a couple are amber-coloured and one is red. In the cases where the iridescence is less advanced, the glass is translucent. As all of the fragments are small and originate from many different vessels, no special types of vessels are determinable; most probably they were drinking-vessels.

Conrady reproduces four fragments with applied threads (Taf. III:29, 31—33), all of a homogeneous greenish blue colour. Of these 32 and 33 match, and the others also seem to have belonged to the same cup. The ware is very thin—less than 1 mm—and the applied threads have not only served an ornamental purpose but have also filled a constructive one, *viz.* as a reinforcement.

No. K. 11227: 291 and probably also K. 11227: 292 have the laid-on threads arranged in a kind of net-work or something similar, whereas K. 11227: 293, an

¹ Serindia, p. 441, L. B. 0015 from Stupa.

² Innermost Asia, Pl. CX, Ying. III, 3.06.

³ The closest Scandinavian parallels being the cups from Varpelev (Müller: Ordning II, 331) and from Kobbe, Bornholm, Denmark (Vedel: Bornholms Oldtidsminder II. Fig. 46).

⁴ Das Glas im Altertume, p. 631 ff.

⁵ „ „ „ „ „ p. 429.

exceedingly thin fragment of uncoloured, transparent glass, has the threads curled up in coils.

The insignificant fragment K. 11227 : 299 from the rim of the mouth or from the foot of a vessel has a laid-on thread of bluish green colour on the otherwise pale-green ware; it is too small to be of any consequence.

There is a score of fragments from the rims of cups or bowls, partly with slightly thickened border, partly with a marked, hollowed rim.

Pl. IX : 9 is a fragment of the upper part of a very small phial, probably a »balsamarium«, and there is also a fragment of another similar bottle (No. K. 11227 : 302).

No. 11227 : 303—309 are fragments from rims of circular, slightly conical glasses resembling watch-glasses, they have probably formed part of the mouth-piece of narrow-necked bottles (or maybe part of the foot). The diam. ranges from 34 to 75 mm.

No. K. 11227 : 300 is a fragment from the foot of a rather wide cup, the foot-ring being hollow.

No. K. 11227 : 310, from an amber-coloured handle (?) has a circular section.

It is difficult to determine whether the amber-coloured fragment No. K. 11227:51 (Conrady III : 35) has formed part of a vessel or a bead of unusual shape.

Pl. XIII : 2 represents what is perhaps the most interesting specimen among the glass objects, *viz.* a round piece of bluish green glass with a very conventionalized animal mask (lion?). The reverse is flat and has probably been attached to the side of a large vessel. Conrady has called attention to certain similarities between it and some terracotta masks published by Hoernle,¹ and to its possible Persian or Indian origin.

Glass was a favourite article of import into China from the West. To the Chinese it was known as coming from Ta-ch'in, a country which in this connection must be identical with the Roman Empire or at least its easternmost parts.²

Every kind of glass-ware in China dating prior to the middle of the fifth century A. D. was believed until recently to have been imported from the West. The Yüeh-chih were supposed to have imparted the knowledge of glass manufacture to the Chinese.³ However, from tombs of the Han dynasty at Lo-lang in Corea, Japanese archaeologists have unearthed glass of undoubtedly Chinese make side by side with imported glass objects. We have to accept the possibility, therefore, of home-made glass in China, though probably only to a somewhat limited extent, at the beginning of our era, as shown by Kümmel.⁴ On the other hand there exist Chinese glass objects of an undoubtedly Chou-character, where the very decomposed state of the heavy material testifies to its high antiquity.

¹ Journ. of The Asiat. Soc. of Bengal, 70, I (1901) Pl. X: 10. (Wrongly quoted by Conrady.) Similar masks also in Hedin's collection of terracottas from Yotkan.

² Forke in Ost. Zeitschr. 1927—28, p. 56.

³ Hirth: China and the Roman Orient, p. 230 f.

⁴ Die ältesten Beziehungen zwischen Europa und Ostasien, p. 117.

MISCELLANEOUS BRONZE AND IRON OBJECTS.

Three small bronze rings may have been used as handles to vessels, on horse trappings or for similar purposes; Pl. XII: 2 is worn thin in one place, showing that it has been hanging. Stein has found similar rings at the Lou-lan site.¹

Pl. XII: 12 is half of a large and hollow ring with circular section. The ring in Pl. XII: 9 with a stem projecting from the outside of it was found at L. B. VI. A similar implement with a more oval ring was recovered by Stein.² Most probably these rings also served as some kind of clapper-rings. In early Hallstatt time this form is known from Roumania, for instance, as serving that purpose,³ and a similar, though much smaller, ring occurs on an Ordos bronze.⁴

The open oval ring in Pl. XII: 1 has either formed part of a belt buckle or, less probably, is the top part of the handle of a Chinese knife.

Conrady presumes that the small bent ring or rod with octagonal section shown in Pl. XII: 4 has been a belt buckle. The shape does not seem very suitable for the purpose but buckles like this actually do occur, though so far I am only acquainted with late specimens. The type was common around A. D. 500 in Latvia, and single specimens are also known from Estonia.⁵ The prototype of this kind of buckle is supposed to have been imported into these Baltic states from the south or the east. Without suggesting any cognate origin for this Baltic type and the Lou-lan fragment, widely separated as they are locally as well as chronologically, I should like to emphasize their striking similarities.

A small bronze tube (Pl. XII: 14) may have been some kind of handle or socket. A bronze cup from Lop nor in Hörner's collection (Inv. No. K. 13408: 1) has a somewhat similar handle.

The sickle-shaped bronze object in Pl. XIV: 3 has been the cover of one of the two side-handles of an oval wooden bowl of the same type as in Pl. XIV: 4. As a rule these kinds of mountings cover only the top and the rim of the handle⁶ and are sometimes gilt. In our case the bottom of the handle has been covered as well.

Several fragments of slightly curved, trough-shaped bronze objects have probably formed the fitting of the rim of one single wooden vessel, its diam. must have been about 28 cm. Only two fragments (Conrady, II: 14—15,) are labelled Lou-lan, but as the three others (Inv. No. K. 11228: 533—535) have the same shape and show

¹ Serindia, Pl. XXIX. Innermost Asia, Pl. XXIV, L. C. 015.

² Innermost Asia, Pl. XXIII, C. XCVI. 03.

³ Nestor: Der Stand d. Vorgeschichtsforsch. in Rumänien, Fig. 27: 10.

⁴ Salmony: Sino-Siberian Art, Pl. XLIV: 1.

⁵ Schmiedehelm: Der Fund von Krimäe in Estland, Fig. 15.

Rickstinsh: Der zweite Depottfund von Kokumuiža, Taf. I: 16—17.

⁶ White: Tombs of old Loyang, Pl. LXX: 172 c.

Arch. res. in the Anc. Lolang distr. Plates part 2, 1925, Pl. 171: 787—792.

Mus. of Far East. Ant. Inv. No. K. 11003: 1042.

the same patina, they too most probably have the same origin. Stein reproduces an identical fragment¹ from the Lou-lan station, and it may possibly form the sixth fragment of this fitting.

Among the various remaining small bronzes there is a narrow band with both ends crank-shaped, Pl. XII: 7, two diminutive bosses with long pins (Pl. XII: 8 and 10), some small indeterminable fragments of plates and sheets of various thicknesses and a few pieces of refuse from bronze castings (one is Conrady, II: 11); these last mentioned being proof of a local manufacture of certain bronze articles. But in the absence of moulds we cannot decide with certainty what was produced locally and what was imported.

*

Among the iron objects the following are worth mentioning. Pl. XVI: 7 is a socketed axe. One side of the socket is destroyed by corrosion; the socket does not reach nearer to the cutting edge than $\frac{3}{5}$ of the whole length, whereas other Han dynasty axes like the modern »pen-tze«, has a much deeper socket.

A small tool not mentioned by Conrady is the awl or pricker depicted in Pl. XVI: 4, its handle is of hard wood.

From the Lou-lan station comes the iron chain, which now consists of single links or of two, three and four connected links. There are seventeen links in all (including three links numbered K. 11228: 523 and 529, according to the catalogue from Khotan, but most probably also originating from Lou-lan). The links are nearly triangular and made in such a fashion that they have formed a flat chain with all the links on a level (Pl. XVI: 8). Their bad state of preservation precludes any definite statement regarding the technical process by which they have been manufactured.

The ring with two »hooks« Pl. XVI: 9 also belongs to the chain. The larger »hook«, by the way, is a fragmentary link.

A big ring, Pl. XVI: 6, may likewise have been attached to the chain.

The object shown in Pl. XVI: 5 has probably served as the clapper of a bell. In later specimens of Chinese bells, at any rate, the clappers are shaped like this.

Pl. XVI: 2 has served as some kind of fitting on a piece of furniture or suchlike. The long nails are of a primitive character, their heads have been formed merely by bending the upper ends at right angles and flattening them a little.

There are three long nails or pins, Pl. XVI: 1 and 3, of uncertain use, besides a good many fragments of nails and small rods, several shown in Conrady Taf. II: 25—29 and 59.

¹ Serindia, Pl. XXXVI, L. A. 0083.

The fragments of two or three large cauldrons of cast iron, illustrated in Scient. Res. Fig. 73, may be remembered in this connection. They were found in 1901 about 15 km. NE of Kaurük bulak — a particularly interesting fact, as this place, though far away from the ruins, is situated fairly close to the track of the ancient Silk road as traced by Stein. Hedin regards them as remains of »a cooking-pot or brazier for warming with charcoal the tent of some Chinese or Mongol traveller». Two fragments form part of an egg-shaped vessel, quite plain, and three others are from the upper portion of a big squat-shaped cauldron. Near the rim the shoulder has an ornamental band filled with a lozenge pattern;¹ across this band is a vertically set handle with a fragmentary ring. The remaining two fragments form a high foot with four very large openings, strongly reminiscent of the foot of some of the so-called Scythian bronze vessels² and also showing similarities with some Persian, Corean and Japanese clay vessels. Whether or not this foot belongs to one of the two vessels is uncertain. Dr. Hedin has furnished a reconstruction in Scient. Res. Fig. 75 on the presumption that it belonged to the squat-shaped vessel. Although the drawing does not reproduce the actual details correctly, this reconstruction must be regarded as probable. There is no evidence to contradict the assumption that these fragmentary vessels were contemporary with the objects found at the Lou-lan ruins.

MISCELLANEOUS WOODEN OBJECTS.

The curiously shaped wooden hook, Pl. XIV: 5, has been used, according to Stein, for fastening animals' collars and is called *chuluk* by the present-day Turks. It is well represented in Stein's collection,³ and from the Etsin gol ruins I have recovered quite similar implements.

The wooden slip Pl. XIV: 1 with a pair of notches near each end is of unknown use. The notches have served the purpose of fastening strings. A great many objects of this kind were also found among the Han dynasty remains at Etsin gol.

The following five objects have not been treated by Conrady. According to a verbal communication from Dr. Hedin, they originate from Lou-lan, which, to judge from the objects themselves, seems most likely.

¹ A similar ornament on a »Scythian kettle» engraved on a grave slab at Podkamen, Siberia. See Appelgren-Kivalo: Alt-Altische Kunstdenkmäler, Abb. 97.

² J. G. Andersson: Hunting magic, Pl. XIX: 2—3, especially the latter. (This reference is according to the illustration; in the descriptive list they bear the numbers 3 and 4.) Several more in The Mus. of Far East. Ant.

Z. v. Takács: Francis Hopp Memorial Exhibition 1933, Fig. 6 and 7.

Inner Mongolia and the Region of The Great Wall (Archaeologia Orientalis. B Series, Vol. 1), Pl. XXIV—XXVI, XXXIV and several figures in the Japanese text.

³ Serindia, Pl. XXXV, L. A. I. iv. 009, L. B. IV. ii. 009. Innermost Asia, Pl. XVI, L. A. V. x. 03 and so forth.

Pl. XIV: 6 is a small wooden seal-case of a type as well known from Stein's collections from the Tunhuang *Limes* as from mine found at Etsin gol. They were used in the following manner, a sa kind of sealing apparatus for letters or parcels. The flat reverse was laid against the object to be sealed and fastened to it by means of strings, running in the three grooves across the socket. This socket was filled with moist clay on which the seal was impressed. When dry the clay formed an excellent seal.

Pl. XIV: 4 shows a little more than one half of an oval lacquered bowl of wood with horizontal lugs for handles. The inside is smooth and is red-lacquered, the outside less well-finished and black-lacquered, the black also forming a border along the inside rim.

This type of wooden bowl seems to have been highly popular among the Chinese during the Han dynasty, and the more elaborate specimens were decorated with most delicately painted ornaments, usually red on black or *vice versa*. The best-preserved ones have been recovered from the tombs of the old Chinese settlement at Lo-lang in Corea,¹ and from one of the royally equipped graves at Noyan ola, north of Urga in Outer Mongolia.²

In the fortifications dating from the Han dynasty at Etsin gol and Suloho they occur abundantly, though with less decoration.

Stein recovered a plain bowl of this type from Lop nor.³

As pointed out above (p. 117) the handles in some cases are covered with bronze mountings. There are also bowls of this type made entirely of bronze as well as of other materials.

Pl. XIV: 7 is a small fragment of a lacquered wooden tray of a rectangular shape but with rounded corners and the sides slightly curved. At the ends there have been projecting dove-tail-shaped handles. The tray is hollowed out, though very shallowly, and red-lacquered; the back is black-lacquered. It was sawn off already in ancient times.

Stein has found many similar trays in the graves in this region, as also did Sven Hedin in 1934. Some of them have four short legs. From the Astana cemetery near Turfan there is an identical and complete specimen.⁴ In the graves they were used as food trays and they may have served the same purpose for the living.

¹ Hamada: The tomb of painted basket of Lo-lang, Part II, Tomb No. 201 of Sekiganri, Pl. CVIII—CX (two of these dated, A. D. 4 and 8).

Archaeological res. on the Anc. Lolang Distr. Plates, Part I (1925) Pl. 85, 86 and several more.

² Comptes rendus des expéditions pour l'exploration du nord de la Mongolie rattachées à l'expédition Mongolo-Tibétaine de Kozlov (in Russian) Tabl. 1. Also reproduced in the Burlington Magazine April 1926 Yetts: Discoveries of the Kozlov Expedition, Pl. IV: L.

³ Innermost Asia, Pl. XXVI, L. M. I. 05.

⁴ " " " Pl. XCI, Ast. 01.

A tamarisk stick bent into a V-shape with notched ends and a double leather trap across (Pl. XIV: 2) also originates apparently from the Lou-lan region. Its very fine state of preservation may be due to its having been protected by thick layers of refuse or suchlike. Probably it has served as a »dead-eye» or pulley used instead of a rope loop on the pack harness to secure the loads to the beasts of burden. In Stein's collection there are three similar ones,¹ and at Etsin gol I have found a few specimens dating from the Han dynasty.

Montell has described quite similar objects from Chile.²

There is also a larger, unfinished specimen, likewise made of the tough tamarisk wood.

The two writing-brushes (Conrady, Abt. 2, Taf. VI: 1—2) should be mentioned in this connection.³ They consist of fairly thick pegs with round section and pointed at the upper end, L. 165 and 173 mm, diam. 13 mm. The other end is socketed to receive the hair and has been tightly wound round with some kind of thread to keep the hair in place.

It is evident that they are clumsy and roughly made compared with the brushes found by me in 1931 in the Etsin gol ruins together with well-dated wooden MSS from the first century B. C. and the first century A. D. A complete specimen from the small fortress of Mu durbeljin in the delta of the river is 219 mm long (excluding the hair), 6—7 mm in diam. and consists of four identical segments fitting into a small pointed member at the upper end. The lower end is socketed and wound round in two places with fine thread to keep the hair in the socket. The slender handle is made in this way to permit of the hair being easily changed. This the oldest known Chinese writing-brush has been described by Prof. Ma Heng, but his illustrations are poor.⁴

A short pointed peg, No. K. 11228: 684, may possibly have been employed as a stylus for writing purposes but it is more likely that it performed a less important function.

MISCELLANEOUS STONE OBJECTS.

In his diary Hedin writes about a well-finished stone axe having been found between ruins L. B. IV and his next camp, which was situated about 22 km to the SSW. It is not quite clear but very probable that Fig. 9 represents the object in question. It is an oblong, well-polished piece of greenish slate with a large biconical hole for suspension purposes near the broader end. The other end is blunt and gives no impression of being a cutting edge. It seems more

¹ Serindia, Pl. XXVIII, N. XIX. 003, N. XXIV. 002 and N. XXIX. ii. 001 b.

² An Arch. Coll. from the Rio Loa Valley, Atacama, Fig. 32.

³ Deposited in The Royal Library, Stockholm.

⁴ Chi Han Chü-yen Pl.

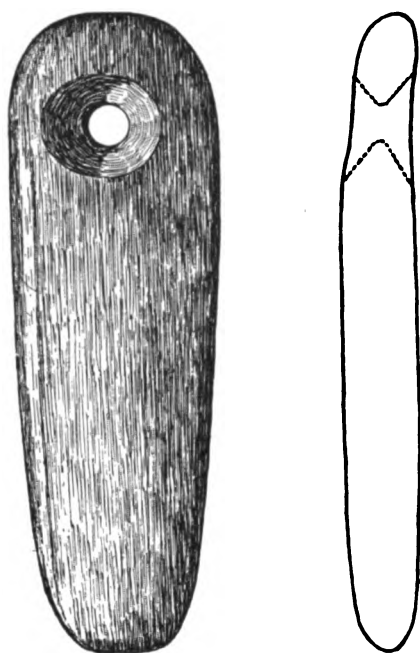


Fig. 9. Whetstone, found by Sven Hedin
in the Lou-lan region.

Inv. No. K. 11228:500. 2:3.

appropriate to label it »whetstone» than »axe».

Pl. IX: 4 is a typical whetstone with a hole for suspension. Conrady's III:13 has served the same purpose but is more irregularly shaped. Both are made of slate.

The small sugar-loaf shaped object of graphite Pl. IX:1 might also have been a whetstone, though it is more likely to have been an unengraved signet, because of its resemblance to those depicted in Innermost Asia.¹ These latter, however, have a suspension hole which is lacking in our specimen.

K. 11227:139 is a fragment of a larger piece of stone with flat mouldings on one side.

Conrady's III:42 is described as a clay object, but, as a matter of fact, it is a limestone concretion, most probably shaped without the aid of human hands.

TEXTILES.

Of extraordinary significance are the textile fragments found by Sven Hedin in the Lou-lan station, consisting of five small pieces of silk, two pieces of woollen and linen material, a beautifully designed woollen carpet of Western origin with bright colours (blue, yellow, red, white) and finally the front part of a shoe-sole of felt and horse-hair. They are reproduced in colour by Conrady, Taf. VIII—IX.

These pieces of silk were the first tangible objects showing the very material which the Chinese so abundantly exported across Central Asia to the Near East and the Roman Empire from the concluding decades of the second century B. C. and onwards, and their value is greatly enhanced by the fact that they have been excavated from a ruin marking the very Silk Road itself.

In recent years Chinese silk materials of high antiquity have been unearthed not only much nearer their original place of manufacture but also — and this is more remarkable — in the Near East, in Palmyra.² From there we have concrete and quite definite proofs of the existence and significance of the Silk Road.

The above-mentioned Lou-lan textiles will be subjected to a comprehensive scientific and technical examination by Miss Vivi Sylwan, of Gothenburg, in connection

¹ Pl. CXI, Yul. 053, 069 and 070.

² R. Pfister: Textiles de Palmyre.

with the far richer and more varied textiles of the same age found by Dr. Hedin and myself in the desert of Lop nor during the early summer of 1934.

At the same time Miss Sylwan intends to describe the rather large, though less varied, collection of Chinese silk excavated by myself in the ruins of the fortifications and guard posts of the Han dynasty along the easternmost of Inner Asia's desert rivers that is of archaeological interest, *viz.* Etsin gol.

CONCLUSION.

Dr. Hedin's find of a wooden tablet with a Kharoshthi inscription was followed by Stein's discoveries of many other MSS in non-Chinese languages, mostly with Buddhist contents. Besides Kharoshthi he came across a Sanscrit MS, and one in the Indian Brahmi script, and finally a fragment written in Soghdian, the language of ancient Samarkand. This last-mentioned find is of quite special interest because the people of Soghdiana were known as enterprising merchants and probably played a prominent role as intermediaries in the silk trade between the Chinese and the people of the Near East.

Just as Lou-lan was a station along the route followed by the victorious progress of Buddhism and Buddhist art from India to China, as is so clearly recorded in the wood-carvings discussed above, so Lou-lan was a station on the road along which China exported her excellent silk fabrics to the West. Already during the first century B. C. China and the Near East were in very active, though indirect, commercial contact. It is even said that the Chinese exported such large quantities of silk to the Roman Empire that Rome's balance of trade in relation to China was passive.¹ The Chinese kept the process of silk production a strict secret, and, so far as is known, silk was the first of China's great gifts to the West. Sericulture was introduced in Greece under Justinian, and it did not reach Western Europe until the time of the Crusades.²

It could hardly be the prospect of gaining new arable land that drew the Chinese to the distant Lop nor and its wastes. Everything that China sacrificed in the way of funds and human lives on the Central Asian military expeditions in the Han dynasty to establish and build up its political domination of the Tarim basin was done in order to gain control of the transit trade with the rich countries in the West.

The very heterogenous finds from Lou-lan are mostly of such a kind that with our present archaeological knowledge they cannot be dated within a margin of 2—300 years. We are unable therefore to distinguish between relics from the time when the Silk road first began to flourish and those from the time of the Chinese military station when the desert route gradually was abandoned. It is remarkable that documents dating from the Han dynasty should be so scarce, for the traffic

¹ Hirth: China and the Roman Orient.

² Carter: The invention of printing, p. 87 f with references to older literature. Dr. Gunnar Ekholm has kindly drawn my attention to a publication by H. Bazin (Vienne et Lyon) where manufacturing of silk is said to have existed in Lyon already in the 2nd cent. A.D. (p. 266), but this statement is founded on no real evidence so far as mentioned in the context.

along the Silk road was at its maximum during the first century B.C. as emphasized by Stein. Judging from the present number of Chinese MSS it was not until the founding of the Lou-lan station around A. D. 260 that Chinese officials in any number were appointed to govern this region.

Future explorations may of course reveal more of early, dated documents.

Considering the natural conditions, the prevalence of severe storms, and the easily eroded ground, it is no wonder that next to nothing of ancient fields, irrigation canals and so forth have been preserved. Only in one place we have definite surface evidence of ancient cultivation. It was around L.B. IV that Stein was able to trace a line of rush-fencing, enclosing what must have been a large garden or piece of cultivated ground. Really extensive agricultural colonies can hardly have existed in the lower Tarim basin around Lop nor, but minor parts of the delta were certainly cultivated, forming small oases. The contents of some of the Lou-lan MSS give one the impression that the agricultural situation was not the very best one but nobody can tell whether they reflect quite normal conditions or extraordinary ones caused by political disturbances or, say, a diminishing water supply in the lower Tarim.

The significance of Lou-lan was never an agricultural one but exclusively strategic and commercial. Thanks to its geographical position it was during certain periods the key to the whole Tarim basin and for that reason it was made into a stronghold to keep away the Huns and to safeguard and support the traffic along the desert part of the road that linked China with its outposts in Central Asia.

Some scholars may have overestimated the importance of Lou-lan and the part of the Silk road (the so called Road of the Centre) it was established to protect. and when compared with the somewhat younger Turfan cultures Lou-lan's glory is certainly outshone by the later.

The Road of the Centre truly forms the most direct line of communication between China proper and the West, but on the other hand it runs through a most formidable desert. As a rule the Chinese never choose a desert route voluntarily in order to make a short cut, but prefer, whenever possible, to make a circuit round uninhabited country. It is the more remarkable therefore that this part of the Silk road was actually much frequented both by travellers and caravans, as is ascertained both from the written documents and from the distribution of the small finds. We must also remember that unsettled conditions in the surrounding parts of what is now the Sinkiang province made other roads less attractive.

Mainly owing to the disappearance of the water in what is now Kum darya, Lou-lan had to be abandoned some time around A. D. 330. It was left to the desert, was soon forgotten and has remained desert ever since. No later occupation has effaced the traces of human activities, only Nature herself has tried her best to destroy the remains of the Lou-lan culture. The high antiquity of Lou-lan and the facts just stated are some of the chief reasons why this small settlement and everything originating from there will always retain their peculiar interest.

LIST OF PLATES.

Regarding the inventory numbers I should like to make the following remarks.

In The Ethnographical Museum, to which all the objects belong, they bear the head number 03.11. Only the wood-carvings (with a few exceptions) have sub-numbers. In most cases the small objects had not been labelled at all until they were deposited in The Museum of Far Eastern Antiquities, where the major bulk of the Lou-lan objects have been given the head number K. 11227. As will be seen from the list, one or two other head numbers have been used as well.

All objects previously reproduced by Conrady have been marked after the descriptions in the following list, for instance, Conrady V:2, meaning Abteilung 3, Tafel V:2 in Conrady's Lou-lan publication.

Pl. I, 1 (03.11.405). Wooden beam, carved in relief on one side. At one end a border is formed of plain bands crossed diagonally between two plain square mouldings, with half-rosettes in the triangles thus formed. Along the beam runs a series of hanging circles, linked horizontally by straight bands and interlacing vertically by means of a reef-knot. Each large circle contains a plain eight-petalled and eight-sepalled lotus or rosette; the spaces between the large circles contain smaller eight-petalled rosettes. A mortice at each end. L. 209 cm. Br. 25 cm. Thickn. 7 cm. From ruin L.B. II. Cf. Fig. 4.

Pl. I, 2 (03.11.406). Wooden beam carved in relief on one side. The pattern consists of a continuous floral scroll between plain mouldings. There have been ten triple leaves springing from the stem (two of them incomplete) on alternating sides and filling the space. Along one edge is a rounded moulding carved with lozenge pattern bordered by a plain sunk moulding. One end mitred, the other has a tenon. L. 214 cm. Br. 19.5 cm. Thickn. 9 cm. From ruin L.B. II. Cf. Fig. 1.

Pl. I, 3 (03.11.408). Part of wooden beam carved in relief on one side. The pattern is analogous to 2. The lower middle part has a framed rectangle filled with lozenge pattern. To the left of this rectangle a floral scroll emerges, filling out the space above the rectangle. The upper contour of the beam is slightly arched (partly made by the discoverer, who has also cut off both ends). Underneath, near the left end, is a square mortice with a hole on each side for a dowel.

State of preservation bad, especially right part. L. 63 cm. Br. 21 cm. Thickn. 6 cm.

Pl. I, 4 (03.11.407). Part of wooden beam, carved in relief on one side. Along one edge a moulding made up of leaves with a ribbon wound spirally round it. Between the plain borders of the flat part of the beam there are two ribbons (with

central line of diminutive lozenges) interlacing angularly and forming lozenges. These are filled with open four-petalled rosettes, and the side triangles are filled with similar half-rosettes. One end mitred. L. 65 cm. Br. 14.5 cm. Thickn. 5 cm.

Pl. II (03.11.410, 411, 419). Almost complete open-work wooden panel, carved in relief on one side. In the middle a big vase from which emerge two floral scrolls, curving down symmetrically on each side of the vase and filling the space between the vase and the frame. The lower part of the vase is decorated with eight long leaves with a straight central groove; round the neck is a band with lozenge pattern. Rabbet at top and bottom. Repaired out of several pieces. H. 70 cm. Br. 52 cm. Thickn. 3—3.5 cm. From ruin L.B. II. Cf. Fig. 3.

Pl. III, 1 (Probably 03.11.417). Fragment of an open-work wooden panel containing a four-petalled open flower with sepal showing between; both petals and sepal have notched rims and are veined with a straight central rib. Rabbet at each end. L. 59 cm. Br. 20.5 cm. Thickn. 3 cm. The complete panel was square. From ruin L.B. II.

Pl. III, 2 (03.11.421). Part of the frame of an open-work wooden panel. In one corner a quarter of an open lotus flower, showing three petals with double rim and veined with a deep central groove; two sepals. From the flower and from three places on the upright frame project small fragments of the figure or ornament that once filled the panel. H. 68 cm. Thickn. 3.7 cm. From ruin L.B. II.

Pl. III, 3 (03.11.423). Almost complete open-work wooden panel carved in relief on one side. Within a plain square border is an eight-petalled lotus with sepals showing between; petals and sepals are veined with a straight central rib. The flower is connected with the frame in the middle of each border (at the shorter sides this connection is formed by three semicircular projections from the frame) as well as by means of two diagonals. Rabbet at each end. L. 44.5 cm. Br. 31 cm. Thickn. 2.5 cm.

Pl. III, 4 (03.11.418). Fragment of open-work wooden panel with a four-petalled open flower with sepal showing between; both petals and sepal are veined with a straight central rib. Petals elongated to fill the corner. Beyond the border is a rabbet at each end. H. 54 cm. Br. 20.5 cm. Thickn. 3.5 cm.

Pl. III, 5 (03.11.415). Fragment of open-work wooden panel similar to Pl. III:8 below but with somewhat larger holes. Badly preserved. L. 47 cm. Br. 13.3 cm. Thickn. 2.5 cm.

Pl. III, 6 (03.11.413). Fragment of open-work wooden panel. The pattern consists of an open trellis-work on diagonal bars with large wheels about each point

of junction. These touch each other along the diagonals, but perpendicularly and horizontally they are connected by vertical crosses. Rabbet at one end, lost at the other. L. 51 cm. Br. 16.5 cm. Thickn. 3 cm.

Pl. III, 7 (03.11.412). Fragment of panel identical with 6. Rabbets preserved at both ends. May have formed one panel together with 6. L. 53 cm. Br. 28 cm. Thickn. 3 cm.

Pl. III, 8 (03.11.414). Fragment of open-work wooden panel, heavy trellis-work with square holes set diamond-wise. Rabbet at each end. L. 60.4 cm. Thickn. 3 cm. From ruin L.B. II.

Pl. IV, 1 (03.11.422). Part of wooden board with rounded end, cut short slant-wise at the other end. Inside a border the round end is filled with lozenge pattern intersected by grooves and finished off with a deep groove where the sides become straight. The straight part is divided lengthways by five deep grooves, which are crossed by shallow diagonal slashes. In the shorter edge are three holes. L. 42.5 cm. Br. 18 cm. Thickn. 3 cm. From ruin L.B. II.

Pl. IV, 2 (03.11.427). Part of semicircular wooden beam, carved in relief on one side. At the extremity and along one edge is a plain moulding, the rest of the surface covered with a lozenge pattern forming overlapping scales. L. 37 cm. Br. 11.5 cm. Thickn. 5 cm.

Pl. IV, 3 (03.11.425). Upright of a lathe-turned wooden balustrade with eight ball mouldings divided by single rings, a tenon at each end. L. 50 cm. Diam. 7 cm.

Pl. IV, 4 (03.11.404). Lower part of wooden board or beam with carvings in relief on one side, representing a vertical row of figures (only two on the actual specimen) each standing under an arch supported by pillars or pilasters. The rather high relief is much worn. There seems to be no structural connection between the pillars of different arches. The two figures differ slightly from one another. The lower one holds a lotus bud or a »chowrie» in the right hand, which is raised above the elbow, the left arm hanging down; the hand probably grasping a ribbon falling from the shoulder. The upper figure holds the hands symmetrically in front of the chest (in *Anjali mudra*?). Both figures are similarly dressed in long robes with floating drapery. From the shoulders a ribbon or »streamer» hangs down each side of the figures. The bases of the pillars rest on strong plinths; the capitals are well developed. No finer details can be noticed as the state of preservation is poor. The left border of the beam is simply moulded. On the other edge is a shallow mortice between the two figures. H. 72 cm. Br. 22 cm. Thickn. 6 cm. From ruin L.B. II.

Pl. IV, 5 (03.11.400). Wooden figure of a standing man, right arm and feet lost. State of preservation very poor. The hind part left uncarved. The head is bare, the contour between the low forehead and the scalp is properly marked. Oval face with large eyes, straight nose, small mouth and rounded chin. The dress consists of a coat reaching nearly to the knees; a belt round the remarkably slender waist, wider in front than at the sides. A marked border round the neck. From the broad shoulders and down to its lower edge the coat is draped in conventional folds. The trousers seem to be draped uniformly. The sleeve reaches to the elbow; round the wrist there is a bracelet. The arm is made of a separate piece and has been fastened to the shoulder by means of dowels. In the remaining arm there are two holes for dowels but in the shoulder only one. Right shoulder defective. L. 100 cm. From ruin L.B. II.

Pl. IV, 6 (03.11.409). Fragment of open-work wooden panel carved in relief on one side, showing the hind part of a beast standing left with long thin body, probably humped almost in a circle. Across the body is the top part of a very slender wing (?), its point turned upwards, feathers marked by oblique parallel lines. Tail in an S-curve between hind-legs. On the front part of the right leg is a carving that might represent the muzzle and three teeth in the upper jaw. Rabbit at top and bottom. H. 70 cm. Thickn. 3 cm. From ruin L.B. II. Cf. Fig. 2.

Pl. V, 1 (03.11.403). Wooden beam carved in relief on one side. Under an arcade are four complete Buddha figures (and part of a fifth), seated in Indian fashion, hands in *Dhyana mudra*, on low plinths. Circular aureole and halo. The almost effaced drapery seems to have been arranged in nicely curved folds; below the hands it forms a semicircular flap concealing the feet. The pilasters supporting the slightly pointed arches are very short and have two longitudinal incised lines. The capitals have a central stem terminating in a trefoil; from each side of the stem protrude two or three elongated »leaves». The arches are roughly moulded. On each spandrel half a lotus flower below the upper border. L. 107 cm. Br. 22 cm. Thickn. 6.5 cm. From Lou-lan station.

Pl V, 2 (03.11.416, 417, 420). Lowest part of large wooden panel, carved in relief on one side. A seated deity within a large vesica has formed the middle figure in a trinity with a standing figure on either side. The main figure is seated with crossed legs, feet pendent, on a low invisible plinth draped with material falling in distinct folds. Immediately above the feet the left hand, with straight forefinger, holds a folded flap of the dress or a broad ribbon hanging down in an S-curve from the hand and reaching the lower margin of the picture. A corresponding flap or ribbon is arranged across the right knee. The vesica has had a dentated border. The left corner of the panel is occupied by the lowest part of a standing figure in a robe reaching to the ankles, the folds practically vertical. The feet broken

off and lost. On the other side of the seated figure only a deep groove indicates the presence of a figure that originally stood symmetrically opposite to the one standing on the left side. The relief is very low, the folds being marked by means of simple grooves. On the left extremity the rabbit is intact. L. 1.35 m. Thickn. 3.5 cm. From ruin L.B. II.

Pl. VI (03.11.401—2). Fragment of large wooden relief, carved on one side. Only two boards of the right side remain. Inside a circular aureole is a man seated in »European fashion» with the legs crossed in front of the throne, the feet pendent. The throne is narrower in the middle, where there is a horizontal moulding. Incised lines on the throne indicate drapery. The figure is seated en face, the left arm held akimbo, the hand with long stiff fingers rests on the thigh and holds a trident with a long shaft. The head is crowned either with a cap or with an *ushnisha* with two short horn-like projections. The features of the face are obliterated. Very few details remain of the dress. Round the throat is a neckband, indistinct folds are curved across each half of the chest. A belt round the waist and two bracelets round the wrist; the sleeve ends at the elbow, the trousers are tight and reach to the ankles.

To the left of the seated figure and outside the aureole is an upright standing figure, designed on a slightly smaller scale and dressed in a long robe. His right arm, wearing two bracelets, is raised and the hand grasps the trident. A broad folded ribbon hangs down from the arm in an elegant curve and extends below the robe. The cap has a high projection in the middle. The ear-lobes are elongated. Apparently the seated figure has formed the centre in a trinity or in a composition with several figures.

Rabbit at top and bottom. State of preservation very poor. H. 100 cm. Br. 70 cm. Thickn. 4.5 cm. From ruin L. B. V.

Pl. VII, 1 (No number). Miniature wooden double-bracket capital in one piece. Abacus divided into two bands by an incised line. Near its top surface a horizontal hole is drilled through the middle part, another hole only begun near right end (from bottom of this a vertical hole begun). The lower part of the abacus has three groups of three vertical lines. The brackets are simple, voluted scrolls with chamfered edges and the eye consisting of a drilled hole (one with trace of red paint). A vertical incised line in the middle, from which one line branches off towards each side. The bottom surface has an unfinished square mortice. The back of the brackets chamfered, otherwise plain. 12.8 × 4.5 × 2.6 cm.

Pl. VII, 2 (03.11.430). Fragment of open-work wooden panel. The border, 8 cm wide, is divided horizontally into three bands by slanting grooves. Below is part of a wheel pattern, the wheels strung on interlacing vertical and horizontal bands

which cross each other in the centre and pass alternately over and under the circumference of the wheel. L. 19.8 cm. Thickn. 1.7 cm.

Pl. VII, 3 (03.11.426). Small wooden leg (of cupboard ?), lathe-turned. 10 cm from the lower end and 3.5 cm from the upper end are pairs of mortices at right angles to one another, to take tenons of cross-pieces. Between the mortices two ball mouldings surrounded by three single rings. The lowest part consists of a broad foot with a narrow collar and an elongated pear-shaped member. Above the upper mortices a short cylindrical member. L. 28 cm. Diam. 4 cm.

Pl. VII, 4 (03.11.428). Fragment of a wooden cornet-shaped object of uncertain use (part of stupa?). Lathe-turned. The widening surface is decorated with horizontal ridges at an interval of 1 cm at the narrow end and 1.5 cm at the wider end. The wide part is hollowed-out as far as to half the length of the object. The narrow end is crowned with a broad disc-like member, originally about 8 cm in diam. L. 28.5 cm. Br. 12.3 cm.

Pl. VII, 5 (No number). Right arm of a wooden figure, the upper part and outer side missing. Hand clenched. Sleeve reaching to a little below the elbow. A crude piece of work. L. 24 cm. Br. across sleeve 6.8 cm.

Pl. VIII, 1 (03.11.424). Wooden stupa representation, carved in the round. Cut off across the spherical dome, the lower part missing. The dome is crowned with a small rectangular member spreading out towards the top, which is cut flat, a spire above with seven »umbrellas», and finally a biconical oval moulding and a vertical disc on the top of it. L. 56 cm. Diam of dome 12.5 cm.

Pl. VIII, 2 (K. 11227: 65). Top part of miniature wooden stupa carved in the round. Consists of the tenon that has been inserted in the dome, the rectangular member spreading out in four steps to the top, and seven »umbrellas». The top-most part broken off. L. 66 mm. Conrady VII: 4.

Pl. VIII, 3 (K. 11227: 135). Lower part of miniature wooden stupa carved out of a flat slip. Consists of a base in two »steps», a spool-shaped dome and fragments of two »umbrellas». L. 112 mm. Conrady VII: 2.

Pl. VIII, 4 (K. 11227: 41). Bronze miniature stupa with tenon at bottom to be inserted in some larger object. The base consists of two moulded members, the dome is hemispherical and crowned with a member spreading to the top, three »umbrellas» at wide intervals and a crowning vertically placed disc. L. 102 mm. Conrady IV: 7.

Pl. VIII, 5 (K. 11227: 66). Miniature wooden stupa carved out of a flat slip. A high base in two steps, slightly vaulted dome, a member spreading to the top, seven »umbrellas», a small member and the vertically placed disc on the top. Well made, probably of elm. L. 193 mm. Br. at base 32 mm. Conrady VII: 1.

Pl. VIII, 6 (K. 11237: 30). Copper lamp or incense-burner with pressed ornaments and a long handle. It consists of a flat-bottomed bowl with a high hemispherical lid. The sides of the bowl have two rows of stylized lotus leaves with angular contours. The flattened, wrought handle projects from the rim of the bowl, near which it forms six coils and terminates in a hemispherical knob. The lid has five imbricated rows of arched lotus leaves. The top is open, but whether intentionally or not it is hard to decide. The lid is fastened to the first coil of the handle by means of a small rod nailed to the rim of the lid. This lower rim of the lid has a lap fitting on to the outside of the rim of the bowl. Inside, the bottom is burnt red. L. 274 mm. Diam. of bowl 87 mm. H. of closed »lamp» 90 mm. From the Lou-lan station.

Pl. IX, 1 (K. 11227: 62). Small sugar-loaf shaped object of graphite. Whetstone, or half-finished seal? L. 22 mm. Diam. 8 mm.

Pl. IX, 2 (K. 11227: 64). Core of light-red agate-like stone. Flakes split off from one side, lower end pointed. L. 41 mm. Conrady III: 13.

Pl. IX, 3 (K. 11227: 52). Flake of yellow-brown silex. L. 43 mm. Conrady III: 16.

Pl. IX, 4 (K. 11227: 42). Whetstone of dark-blue slate, rectangular with a big suspension hole near one end, the other end broken off. $60 \times 16 \times 8$ mm. Conrady III: 14.

Pl. IX, 5 (K. 11227: 10). Spindle whorl of bluish-grey slate, well polished. One side flat, the other convex. Diam. 32 mm. Thickn. 10 mm. Conrady III: 4.

Pl. IX, 6 (K. 11227: 7). Approximately round disc made of a potsherd with central hole. Probably a sinker or a weight, not so suitable as spindle whorl. Light grey ware. Diam. 30 mm. Thickn. 6—8 mm. Conrady III: 3.

Pl. IX, 7 (K. 11227: 48). Well-polished spindle whorl of opalescent chalcedony, symmetrically biconvex. Diam. 24 mm. Thickn. 15 mm. Conrady III: 21.

Pl. IX, 8 (K. 11227: 14). Small circular disc, made of bitumen, with central hole. Diam. 13 mm. Thickn. 3 mm. Conrady III: 12.

Pl. IX, 9 (K. 11227 : 301). Fragment of upper part of a very small glass phial. translucent pale green (nearly colourless), iridescence advanced. Diam. at mouth 17 mm.

Pl. IX, 10 (K. 11227 : 16). Small leaden disc with central hole. Sinkers. Diam. 17 mm. Thickn. 3 mm. Conrady III : 9.

Pl. IX, 11 (K. 11227 : 3). Potsherd of grey, hard-burnt ware, from shoulder of fairly large vessel. Ornamentation consists of a row of incised, not quite closed circles and above this incised, straight, slanting lines. Thickn. 8—9 mm.

Pl. IX, 12 (K. 11227 : 4). Potsherd of dark brown, partly reddish, colour and hard-burnt ware from shoulder of large vessel. The ornamentation is concentrated to a laid on band 4 mm thick and consists of a deeply incised lozenge pattern. Thickn. of ware 7 mm.

Pl. IX, 13 (K. 11228 : 648). Earthenware cup, lamp, nearly hemispherical, with a simply made spout. Well-burnt, reddish-brown ware. Diam. 72 mm. H. 30 mm.

Pl. IX, 14 (K. 11228 : 665). Earthenware cup, roughly made. Flat bottom, rounded inside. Hard-burnt ware, grey with yellow spots. Diam. 75 mm. H. 30 mm.

Pl. IX, 15 (K. 11227 : 314). Upper part of earthenware jug which has had a handle. Hard-burnt yellowish-red ware. Upper diam. 54 mm. H. of neck 55 mm. Thickn. of ware 5 mm.

Pl. X, 1 (K. 11227 : 19). Bronze arrow-head, two-winged with well developed socket, which has a marked central rib and is longer than the leaf-shaped blade. L. 57 mm. Broadest part of blade 20 mm. Conrady II : 4.

Pl. X, 2 (K. 11227 : 18). Three-winged bronze arrow-head with socket. Bases of wings form barbs, edges of wings slightly convex. The socket has three small slit-like openings between the blades. L. 33 mm. Conrady II : 1.

Pl. X, 3 (K. 11227 : 119). Three-winged bronze arrow-head. The socket has three wide apertures between the blades; near the base is a small round rivet hole. The upper and lower parts of the edges meet at obtuse angles in the same height as the apertures. L. 36 mm. Br. between bases of wings 14 mm. Conrady II : 2.

Pl. X, 4 (K. 11227 : 120). Triangular bronze arrow-head with short hexagonal shank, broken off (iron) tang. L. 37 mm. Br. 10 mm. Conrady II : 5.

Pl. X, 5 (K. 11227: 21). Triangular bronze arrow-head with hexagonal base with traces of the iron tang. L. 36 mm (without the fragment of the tang 32 mm) Br. 10 mm. Conrady II: 3.

Pl. X, 6 (K. 11227: 121). Triangular bronze arrow-head with hexagonal shank and blunt point, lost (iron) tang. L. 27 mm. Br. 10 mm. Conrady II: 6.

Pl. X, 7 (K. 11227: 20). Arrow-head similar to 6. L. 26 mm. Br. 9 mm. Conrady II: 7.

Pl. X, 8 (K. 11227: 68). Two-winged iron arrow-head with long tang, deformed by corrosion. Between blade and tang an indistinct ring-shaped swelling. L. 80 mm. Conrady V: 3.

Pl. X, 9 (K. 11227: 36). Small square flat bronze object with a longitudinal hole, on one side an (unintentional) incision. From a belt ? $14 \times 14 \times 5$ mm. Conrady II: 37.

Pl. X, 10 (K. 11227: 29). Small rectangular bronze sheet, a rivet hole near each end. 21×11 mm. Conrady II: 48.

Pl. X, 11 (K. 11227: 104). Approximately rectangular thin bronze mounting with a big rivet hole near each end. 32×12 mm. Conrady II: 57.

Pl. X, 12 (K. 11227: 101). Bronze tongue to protect the end of a strap. One end semicircular, slightly chamfered edges. 32×11 mm. Conrady II: 58.

Pl. X, 13 (K. 11227: 126). Reconstruction of a fragmentary bronze socket, to lower end of handle of a Ko-weapon. Section of tube is bulbous, there being an edge-shaped ridge on one side and diametrically opposite to it a flat ridge. 20 mm from bottom a rectangular hole, 25×8 mm, through each ridge. $86 \times 23 \times 22$ mm. Conrady IV: 3—4.

Pl. X, 14 (K. 11227: 23). Fragment of a small four-spoked bronze wheel. Diam. 38 mm. Thickn. 5 mm. Conrady II: 33.

Pl. X, 15 (K. 11227: 28). Round flat bronze button. The obverse is decorated with twelve small dots round a central disc. The reverse has a small loop. Diam. 28 mm. Conrady II: 56.

Pl. XI, 1 (K. 11227: 92). Bronze boss, rather flat, with a loose rivet through the central hole. Diam. 28 mm. Conrady II: 50.

Pl. XI, 2 (K. 11227 : 22). Fragmentary round boss of pressed copper; the central part is higher than the rim, pressed ornaments of parallel lines arranged slantwise. Diam. about 40 mm. Conrady IV : 8.

Pl. XI, 3 (K. 11227 : 31). Nearly hemispherical bronze boss with projecting flange at base. Below is a central pin for attachment. Diam. 23 mm. H. 10 mm. Conrady II : 49.

Pl. XI, 4 (K. 11227 : 30). Boss similar to 3 but lower. Diam. 20 mm. H. 6 mm. Conrady II : 47.

Pl. XI, 5 (K. 11227 : 34). Diminutive bronze bell, conical. Round eyelet. Two pairs of horizontal, incised lines round bell. Diam. 21 mm. H. 22 mm. Conrady II : 41.

Pl. XI, 6 (K. 11227 : 26). Small bronze boss, rather flat. The fragmentary flange has been divided into six flaps, at the ends of which is a small knob. A central hole in the boss to take a rivet (now lost). Diam. 19 mm. H. 3 mm. Conrady II : 46.

Pl. XI, 7 (K. 11227 : 38). Diminutive, hemispherical bronze bell with a nearly semicircular suspension-eye and a narrow, slit-like opening. Diam. 16 mm. Conrady II : 38.

Pl. XI, 8 (K. 11227 : 118). Bell similar to 7. Diam. 14 mm. Conrady II : 42.

Pl. XI, 9 (K. 11227 : 63). Small oval carnelian intaglio with the figure of a standing man; of inferior execution. 12×9 mm. Conrady III : 27.

Pl. XI, 10 (K. 11227 : 24). Fragmentary bronze bell. The flat top has had a wide and fairly high loop. The section of the bell is lenticular, the lower rim forms a marked concavity. Along the rim are two elevated lines with a zigzag line between, forming a wolf-tooth pattern. The clapper, 16 mm long, adheres to inside of bell owing to corrosion. The top 25×10 mm. Original distance between points of rim 41 mm. Conrady II : 39.

Pl. XI, 11 (K. 11227 : 88). Upper part of small bronze bell with semicircular eyelet and lenticular section. The top 37×24 mm. Conrady II : 40.

Pl. XI, 12 (K. 11227 : 123). Finger-ring of bronze with an incised elliptical bezel. Only a small fragment is left of the original ring. The reproduction is from an old photo. Conrady II : 24.

Pl. XI, 13 (K. 11227 : 32). Broad bronze finger-ring with ribbed surface (finger-shield). Diam. 18 mm. Br. 6 mm. Conrady II : 19.

P. XI, 14 (K. 11227 : 117). Finger-shield similar to 13. Diam. 18 mm. Br. 6 mm. Conrady II : 20.

Pl. XI, 15 (K. 11228 : 514). Fragmentary finger-shield with quite plain rims. Diam. 18 mm. Br. 4—5 mm. Conrady II : 18.

Pl. XI, 16 (K. 11227 : 113). Fragmentary bronze finger- or ear? ring. One end of the flat ring terminates in a thin wire forming a loop, the free end of which is wound in a spiral and then wound round the ring four turns. The other end is broken off, but must have formed a hook. Diam. about 18 mm. Br. 2 mm. Conrady II : 16.

Pl. XII, 1 (K. 11227 : 99). Open oval bronze ring with circular section. Part of a buckle? Br. 32 mm. Conrady II : 32.

Pl. XII, 2 (K. 11227 : 33). Small bronze ring, worn in one place. Diam. 19 mm. Conrady II : 21.

Pl. XII, 3 (K. 11227 : 108). Bronze ring, cornet-shaped, fragment of a boss? Diam. 18 mm. Conrady II : 51.

Pl. XII, 4 (K. 11227 : 25). Broken bronze ring, octagonal section with a thicker part. Probably the fractures were in contact with one another and the object might have been the ring of a buckle. H. 24 mm. Conrady II : 23.

Pl. XII, 5 (K. 11227 : 111). Curved bronze rod with elevated circles covering one side. Broken at both ends across holes through two of the circles. Another circle is also pierced. Probably an ornament for application on wood, leather or suchlike. L. 29 mm. Conrady II : 31.

Pl. XII, 6 (K. 11227 : 115). Small bronze ring. Diam. 12 mm.

Pl. XII, 7 (K. 11227 : 110). Small bronze chape with a rivet at each end. L. 22 mm. Br. 4 mm. Conrady II : 35.

Pl. XII, 8 (K. 11227 : 116). Small bronze boss or rivet, egg-shaped head. L. 10 mm. Conrady II : 36.

Pl. XII, 9 (K. 11227 : 125). Bronze ring with a stem, 23 mm long, projecting from the outside. Diam. 49—51 mm. From ruin L.B. VI. Conrady IV : 9.

Pl. XII, 10 (K. 11227 : 127). Small bronze boss or rivet with hemispherical head. L. 10 mm.

Pl. XII, 11 (K. 11227 : 71). Fragmentary bronze hair-pin. L. 92 mm. Conrady V : 5.

Pl. XII, 12 (K. 11227 : 100). Half of hollow bronze ring. Diam. 38 mm. Conrady II : 34.

Pl. XII, 13 (K. 11227 : 40). Bronze hair-pin. At the bent part the wire is flattened. L. 124 mm. Conrady V : 6.

Pl. XII, 14 (K. 11227 : 93). Bronze tube, slightly tapered towards one end. Probably a broken-off handle. L. 32 mm. Diam. 12 and 9 mm. Conrady II : 10.

Pl. XII, 15 (K. 11227 : 72). Fragmentary bronze hair-pin, unusually broad. L. 110 mm. Conrady V : 7.

Pl. XIII, 1 (K. 11227 : 266). Bead-like object of yellow translucent glass being a semicircular disc, grooved along the straight side. L. 13 mm. Thickn. 7 mm.

Pl. XIII, 2 (K. 11227 : 59). Round mask of blue glass; a highly conventionalized lion? The reverse side flat. Diam. 20 mm. Conrady III : 24.

Pl. XIII, 3 (K. 11227 : 258). Flat rectangular bead of yellow paste, pierced longitudinally. $12 \times 10 \times 5$ mm. Conrady III : 28.

Pl. XIII, 4 (K. 11227 : 60). Fragment of spherical bead of greenish-blue paste with an inlaid eight-petalled flower composed of four colours. The petals are alternately yellow and light violet, the central part is red and all the contours are dark brown. Diam. 10 mm. Conrady III : 26.

Pl. XIII, 5 (K. 11227 : 39). Gold bead, barrel-shaped and hollow. Originally the shape was probably more spherical. Made out of two halves. Diam. 17 mm. Conrady III : 23.

Pl. XIII, 6 (K. 11227 : 257). Discoid bead of lapis lazuli, the edge on one side three times as thick as on the other. Diam. 16 mm. Thickn. 10—3 mm. Conrady III : 28.

Pl. XIII, 7 (K. 11227 : 57). Half of a blue glass bead, a flattened spheroid with channeled surface. Diam. 17 mm. Thickn. 12 mm. Conrady III : 25.

Pl. XIII, 8 (K. 11227 : 224). Moulded bead of colourless transparent glass. Might be regarded as a triple-bead composed of a spheroid member with a discoid one on either side. L. 15 mm. Diam. 10 mm. Conrady III : 28.

Pl. XIII, 9 (K. 11227 : 225). Glass bead similar to 8 but dark blue. Conrady III : 28.

Pl. XIII, 10 (K. 11227 : 256). Dark-blue glass bead, »capstan bead». Ear-ornament. L. 10 mm. Diam. at ends 9 and 7 mm. Conrady III : 28.

Pl. XIII, 11 (K. 11227 : 246). Double-bead of honey-coloured glass with traces of gilt. L. 11 mm. Diam. 5—6 mm. Conrady III : 28.

Pl. XIII, 12 (K. 11227 : 247). Double-bead similar to 11. L. 9 mm. Diam. 5 mm. Conrady III : 28.

Pl. XIII, 13 (K. 11227 : 248). Double-bead of blue glass. L. 6 mm. Diam. 3 mm. Conrady III : 28.

Pl. XIII, 14 (K. 11227 : 58). Ear-pendant. Upper part consists of a hook of gold wire (or gilt bronze?) at the flattened base of which is an inset drop-shaped piece of carnelian; at each side of it an S-shaped wire. Below is a loop. Through this and the two loops on the lower part of the pendant is fastened a horizontal piece of wire with a pearl at each end. Lower part consists of a hexagonal bead of emerald-coloured glass in a frame of six flat gold ribs, running vertically and each having one longitudinal groove. At the lower end a bunch of four small pearls fastened on a wire running through the hole of the bead. L. 40 mm. Conrady III : 22.

Pl. XIII, 15 (K. 11227 : 249). Spool-shaped bead of gilt glass with a moulding at each end. L. 12 mm. Diam. 5 mm. Conrady III : 28.

Pl. XIII, 16 (K. 11227 : 250). Double-bead of gilt glass, each member shaped like those in 8—9. L. 10 mm. Diam. 4 mm. Conrady III : 28.

Pl. XIII, 17—19 (K. 11227 : 251—253). Three beads of gilt glass, flattened spheroids. Diam. 7—6 mm. Conrady III : 28.

Pl. XIII, 20—22 (K. 11227 : 214—216). Three oblong amber beads. L. 12—11 mm. Diam. 9 mm. Conrady III : 28.

Pl. XIII, 23—29 (K. 11227 : 231—237). Seven beads of *Quadrula*-shell, spheroid, barrel-shaped and nearly cylindrical. Diam. 10—5 mm. Conrady III : 28.

Pl. XIII, 30 (K. 11227 : 222). White glass bead, flattened spheroid. Diam. 13 mm. Thickn. 7 mm. Conrady III : 28.

Pl. XIII, 31—35 (K. 11227 : 217—221). Five dark-blue glass beads like 30. Diam. 14—11 mm. Thickn. 8—7 mm. Conrady III : 28.

Pl. XIII, 36—41 (K. 11227 : 225—230). Six carnelian beads. The three smaller are unpolished and irregularly shaped, whereas the three larger ones are polished and spherical. Diam. 10—6 mm. Conrady III : 28.

Pl. XIV, 1 (K. 11227 : 134). Rectangular wooden slip (poplar) with one pair of notches in the edges near each end. $148 \times 19 \times 8$ mm. Conrady VII : 3.

Pl. XIV, 2 (K. 11237 : 29). Tamarisk stick bent into a V-shape with notched ends and a double leather strap across it. Br. between ends 72 mm. L. of arms 80 mm.

Pl. XIV, 3 (K. 11227 : 27). Bronze mounting to cover a handle of an oval wooden bowl similar to 4. Cross section is U-formed. L. 63 mm. Thickn. 5 mm. Conrady II : 13.

Pl. XIV, 4 (K. 11237 : 27). Fragment of oval wooden bowl or cup with horizontal lugs for handles. The inside is well smoothed and red-lacquered, the outside is less well finished and black-lacquered. The black also forms a border around the inside of the rim. L. 13.8 cm. H. 3.5—4 cm. Thickn. of lug 9 mm.

Pl. XIV, 5 (K. 11227 : 136). Hook-shaped object made of a piece of a small branch projecting from a flat rectangular piece of the trunk, the latter polished by wear. At the end the peg is pointed and notched. According to Stein a »chuluk» for fastening animals' collars. L. 93 mm. Flat piece 20×45 mm. Conrady VII : 7.

Pl. XIV, 6 (K. 11237 : 11). Square wooden seal-case. The socket (29×30 mm) is somewhat shallow and has three grooves for strings. $50 \times 45 \times 12$ mm.

Pl. XIV, 7 (K. 11237 : 28). Fragment of a lacquered wooden tray, shallow, with slightly curved sides and rounded corners. Part of one of the two handles is projecting from what was once one end. Has been sawn off in ancient times. The top is red-lacquered, the bottom black-lacquered. 105×71 mm.

Pl. XIV, 8 (K. 11227 : 133). Wooden spoon with handle and bowl on the same level. The »bowl» is absolutely flat, its lower edge being rounded. Roughly made.

L. 167 mm. Br. of handle 11 mm. Br. of bowl 38 mm. From the Lou-lan station.
Conrady VII: 5.

Pl. XIV, 9 (K. 11227: 70). Fragmentary bronze spoon with straight handle with square section; oval, very shallow bowl. Repaired out of four pieces. Br. of bowl 40 mm. Conrady V: 2.

Pl. XIV, 10 (K. 11227: 69). Fragmentary bowl of bronze spoon, egg-shaped, somewhat shallow. 65 × 40 mm. Conrady V: 1.

Pl. XIV, 11 (K. 11227: 137 and K. 11237: 1). Horn spoon. The slightly curved handle is semicircular in section; the oval bowl is much worn and slightly hollow. L. 270 mm. Br. of bowl 36 mm. Conrady VII: 6.

Pl. XV, 1 (K. 11227: 67 A). Lead coin with oblong hole. Khotan issue. Diam. 23 mm. Conrady I: 1.

Pl. XV, 2 (K. 11227: 67 B). Fragment of Chinese copper coin, Ta-ch'üan-wu-shih, with high outer and inner rim. Diam. 28 mm. Conrady I: 2.

Pl. XV, 3 (K. 11227: 67 E). Chinese copper coin, Huo-ch'üan. Diam. 23 mm. Conrady I: 5.

Pl. XV, 4—5 (K. 11227: 67 I and 317). Two Chinese copper coins, Wu-ch'u, with outer rim and inner rim on the reverse. Diam. 26 and 25 mm. 4 = Conrady I: 9.

Pl. XV, 6 (K. 11227: 67 U). Chinese copper coin, Wu-ch'u, lacking outer and inner rim. Conrady I: 21.

Pl. XV, 7 (K. 11227: 347). Fragment of Chinese copper coin, inverted »ch'u» on the *right* side.

Pl. XV, 8 (K. 11227: 67 Y). Chinese copper coin, Wu-ch'u, debased, lacking rims. Diam. 16 mm. Conrady I: 24.

Pl. XV, 9 (K. 11227: 351). Chinese copper coin, lacking legend and rims. Diam. 20—22 mm. Conrady I: 27.

Pl. XV, 10 (K. 11227: 67 Å). Chinese copper coin, lacking legend and outer rim. Diam. 17—18 mm.

Pl. XV, 11 (K. 11227: 67 a). Chinese copper coin, lacking legend and rims, practically square. Diam. 16—18. Conrady I: 29.

Pl. XV, 12—13 (K. 11227: 330 and 361). Two Chinese copper coins, debased, lacking legend and rims. Diam. 10—12 mm.

Pl. XV, 14 (K. 11227: 50). Cowry shell with suspension hole near pointed end. L. 23 mm. Conrady III: 18.

Pl. XV, 15—17 (K. 11227: 45, 44 and 49). Three cowry shells with the dorsal portion ground off. L. 17—22 mm. All four are *Cyprea moneta*. Conrady III: 19, 20 and 17.

Pl. XV, 18 (K. 11227: 43). Fragment of the hinge part of a *Quadrula* shell with two polished surfaces. L. 37 mm. Conrady III: 37.

Pl. XV, 19 (K. 11227: 47). Disc of *Quadrula*-shell, drilled through centre, in which is still an iron rivet with a high rounded head. Diam. of disc 30 mm. L. of rivet 20 mm. Conrady III: 39.

Pl. XV, 20 (K. 11227: 132). Fragment of a disc similar to 19. Diam. 22 mm. Conrady III: 38.

Pl. XVI, 1 (K. 11227: 2). Iron pin with part of a big loop at upper end. Square section. L. 167 mm. Conrady IV: 5.

Pl. XVI, 2 (K. 11227: 124). Iron corner-fitting or suchlike, consisting of a rectangular, slightly bent plate with a big nail through a hole near each end. The heads of the nails are formed merely by bending the upper ends at right angles and flattening them a little. The flat piece 163×28 mm, the nails 80—85 mm long. Conrady IV: 1.

Pl. XVI, 3 (K. 11227: 1). Iron pin with square section, the head formed by two small volutes. L. 151 mm. Conrady IV: 6.

Pl. XVI, 4 (K. 11228: 682). Iron pricker or awl with wooden handle of circular section. L. of handle 51 mm. Total L. 107 mm.

Pl. XVI, 5 (K. 11227: 82). Iron clapper from a bell. Circular section. L. 98 mm. Conrady VI: 11.

Pl. XVI, 6 (K. 11227: 76). Open iron ring, rectangular section. Diam. 65 mm. Br. 7 mm. Conrady VI: 8.

Pl. XVI, 7 (K. 11227 : 87). Iron socketed axe, one side of the socket lost through corrosion, it does not reach nearer to the slightly convex cutting edge than $\frac{3}{5}$ of the whole length. L. 102 mm. Br. of cutting edge 49 mm. H. of socket 55 mm. Br. of socket 37 mm. Conrady II : 30.

Pl. XVI, 8—9 (K. 11227 : 79 and 81). Two fragments of an iron chain with nearly triangular links, made in such a fashion that they have formed a flat chain with all links on a level. — :9 has a small ring attached to one fragmentary link, and possibly a small hook. The links are 46 mm long and 26 mm wide on the broadest part. From the Lou-lan station. Conrady VI : 2 and 10.

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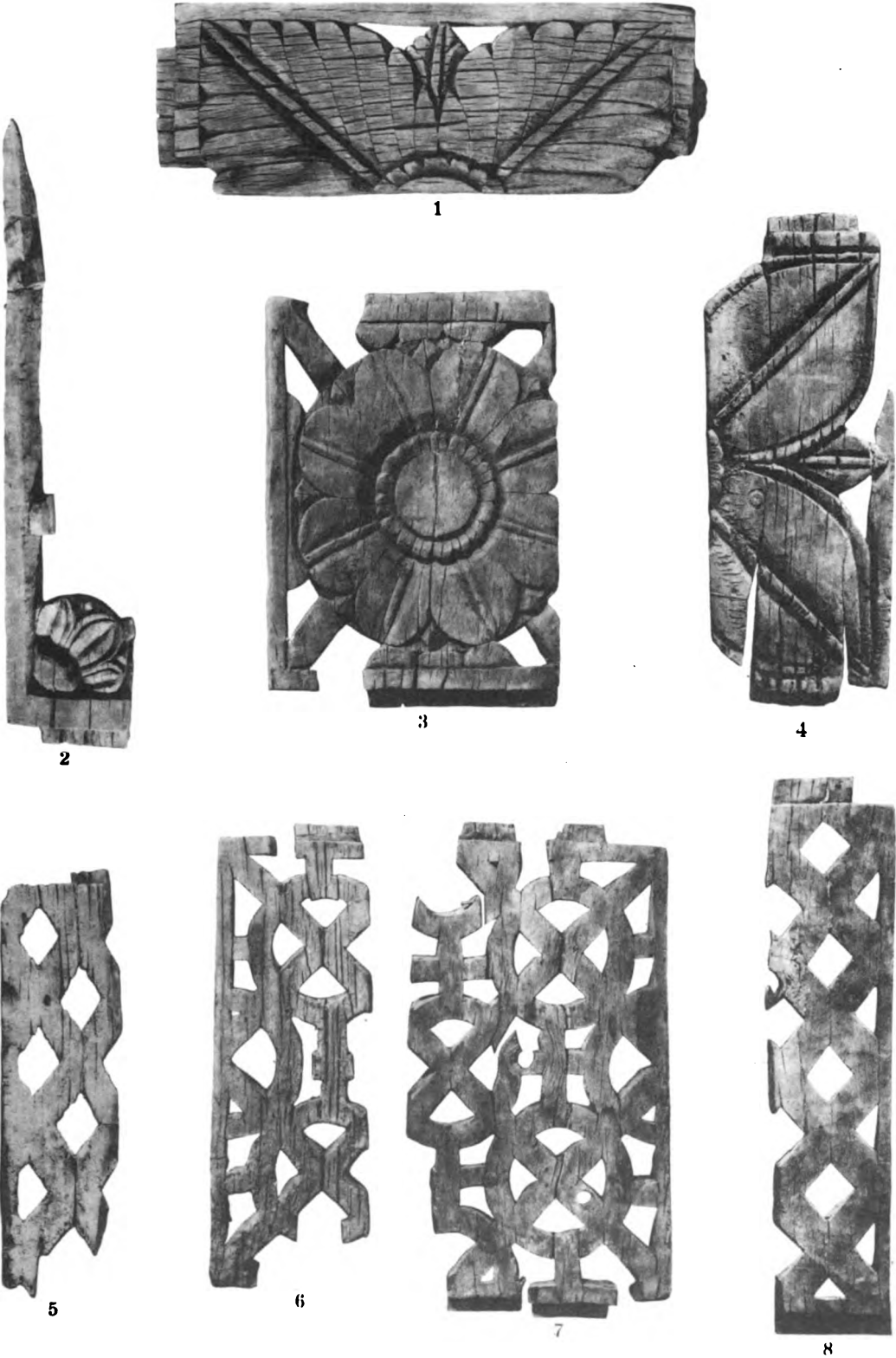


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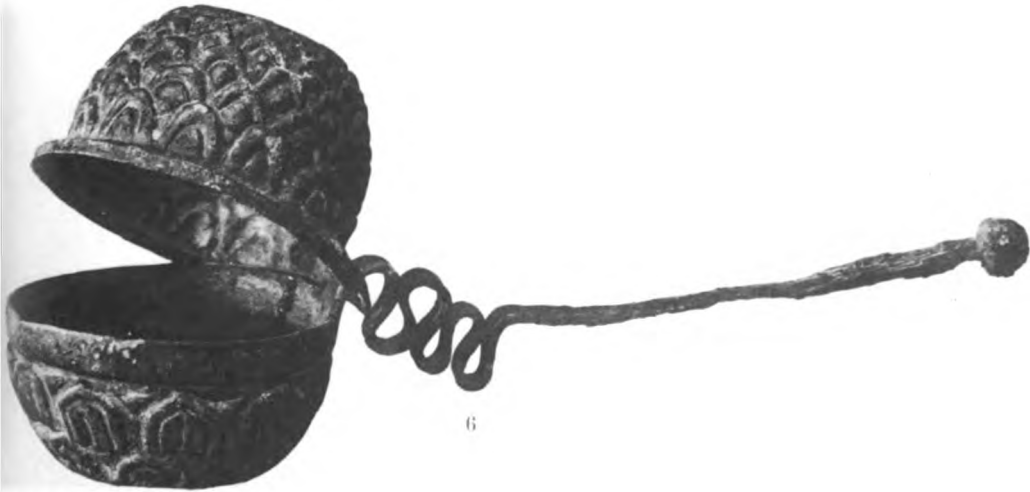
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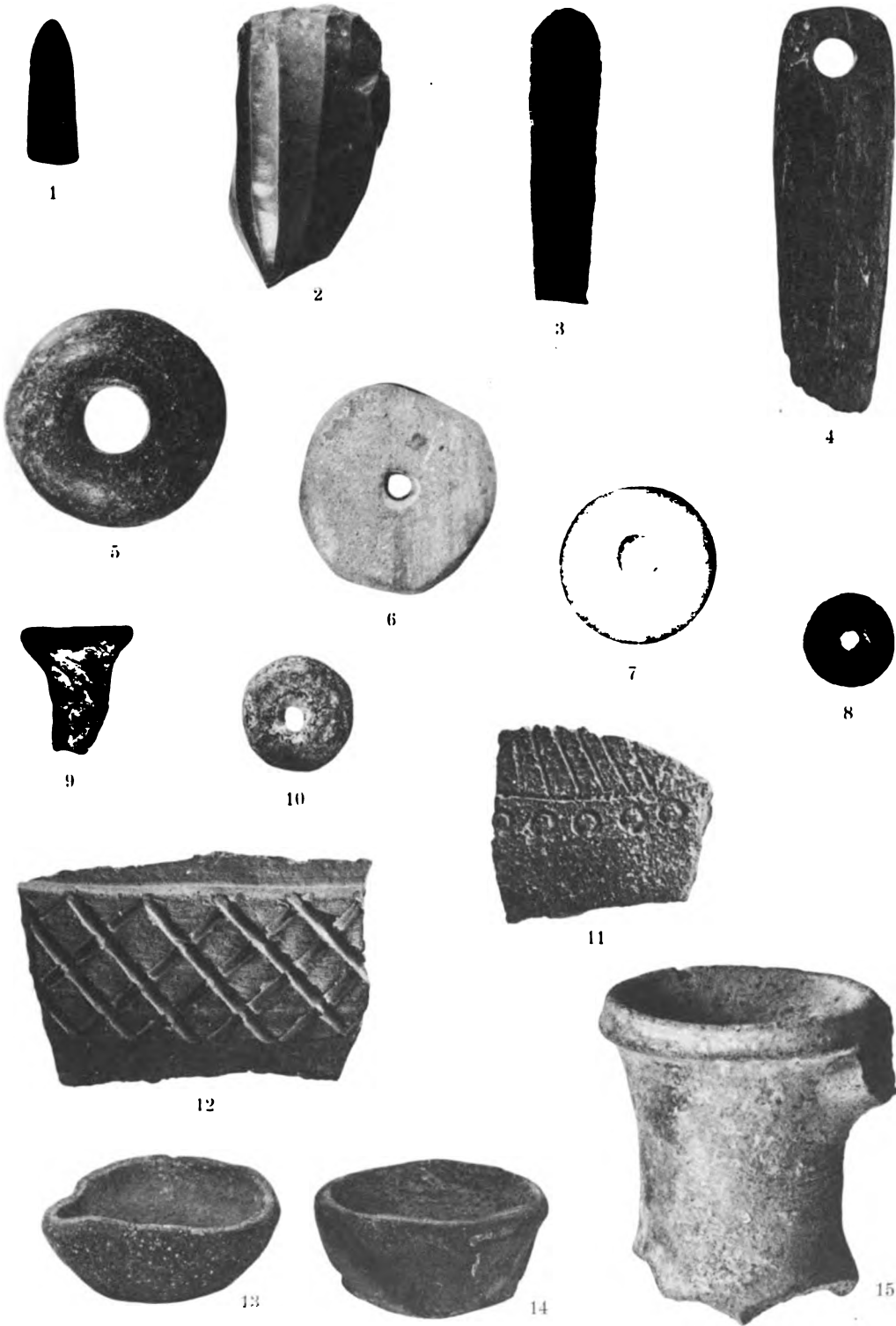
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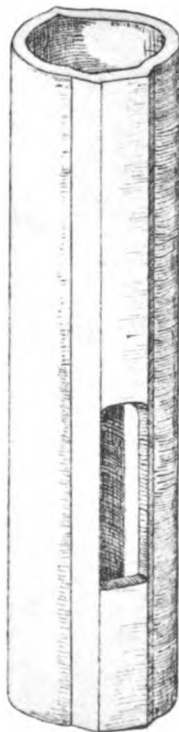
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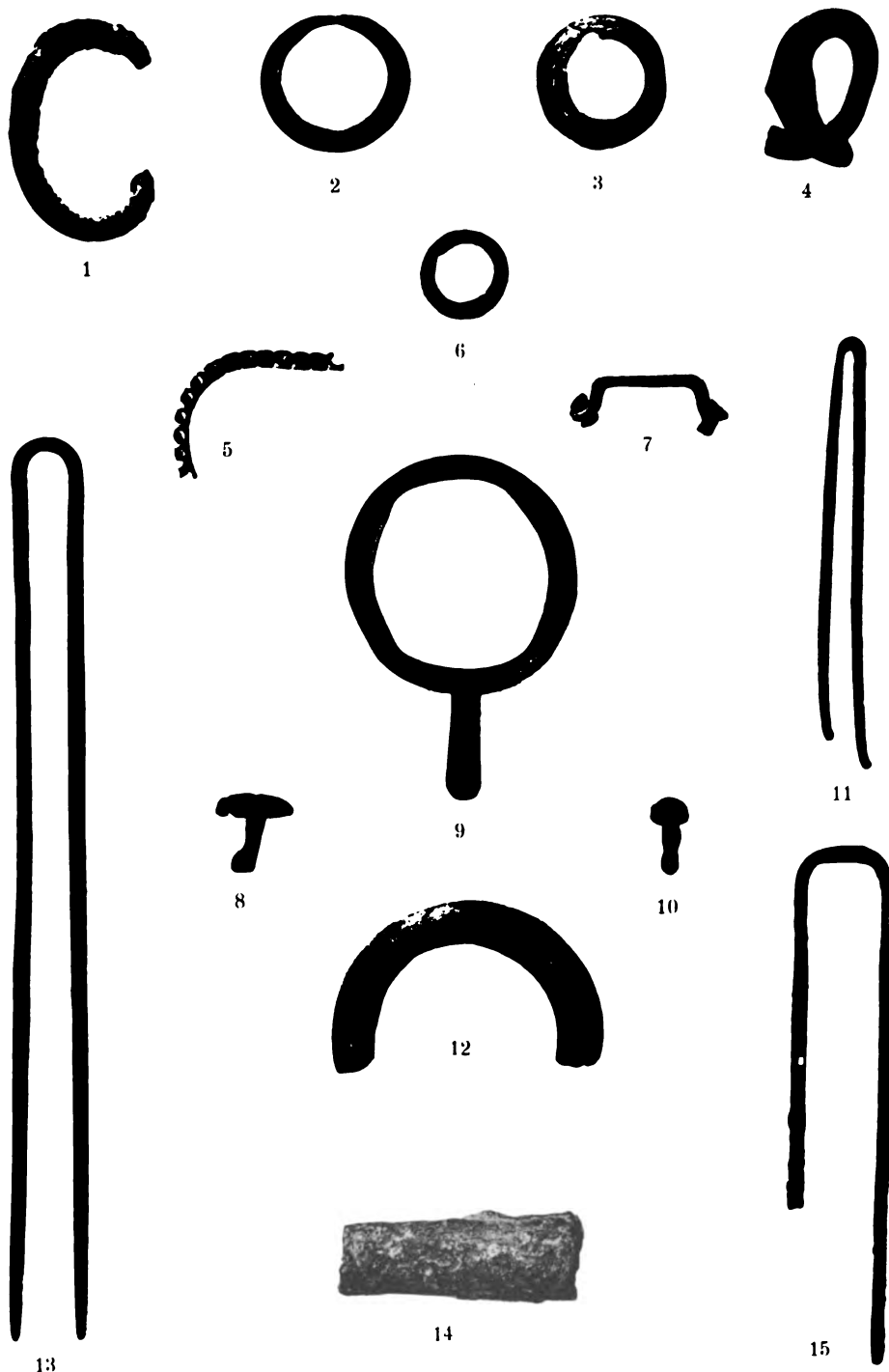
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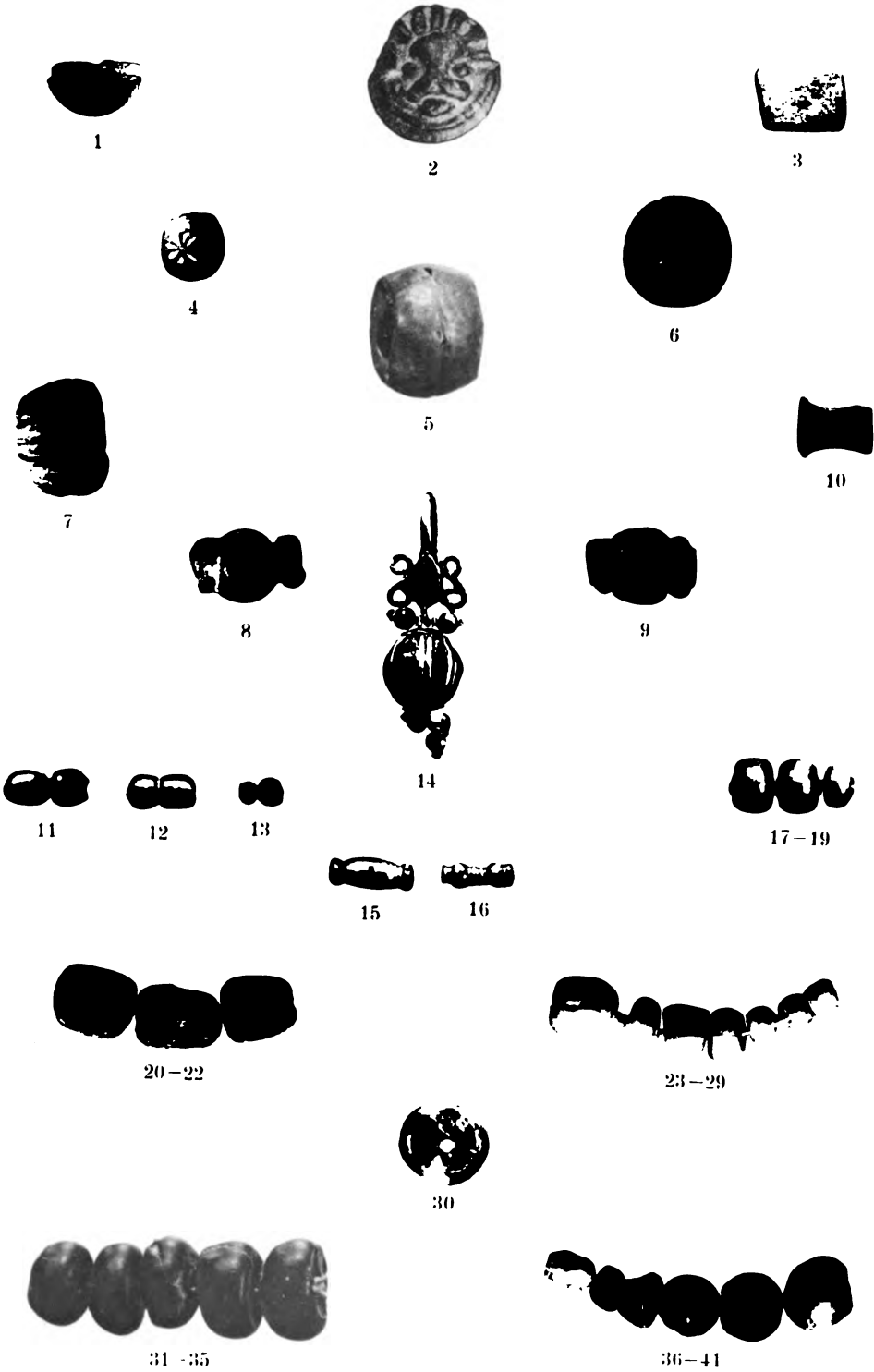


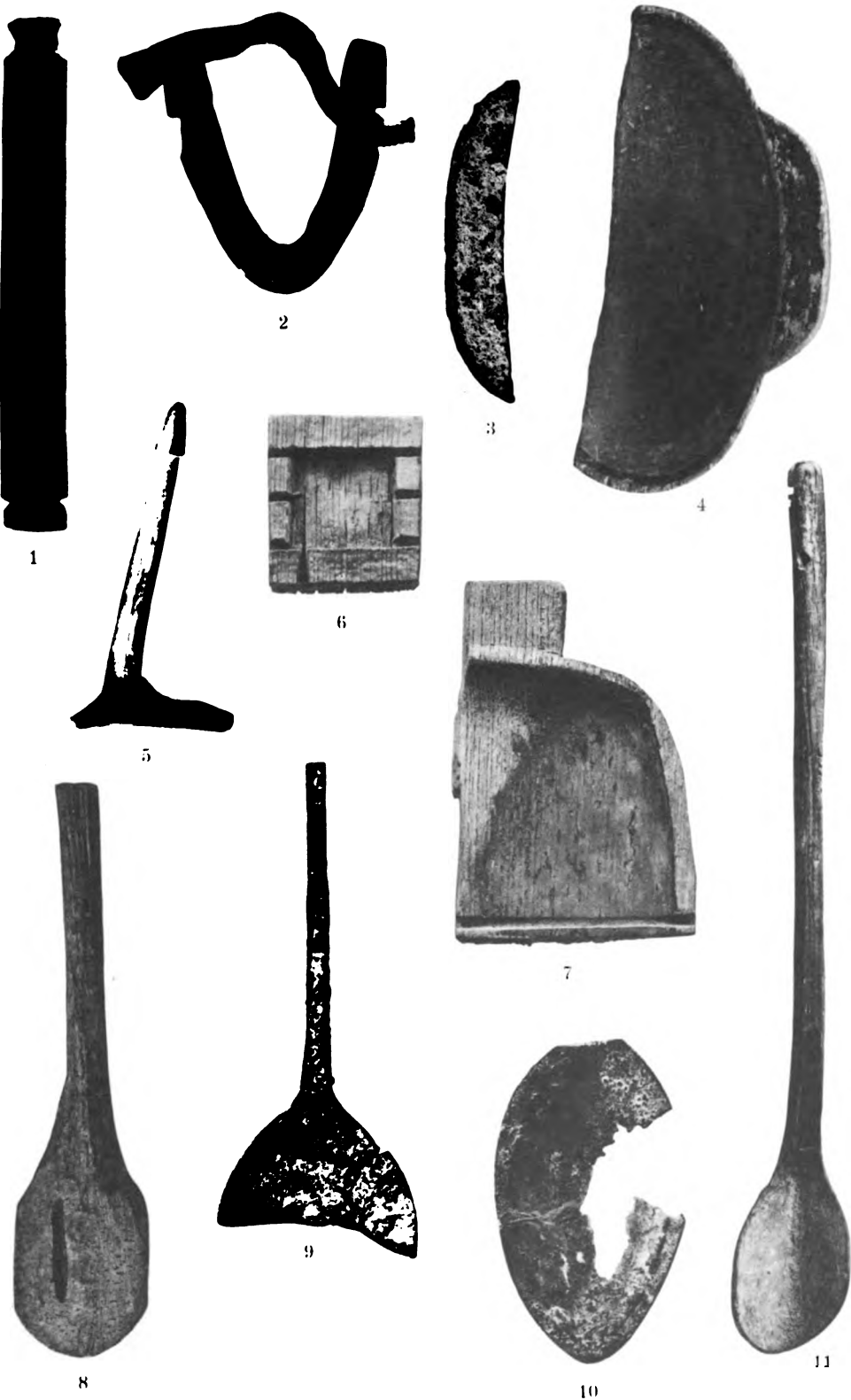
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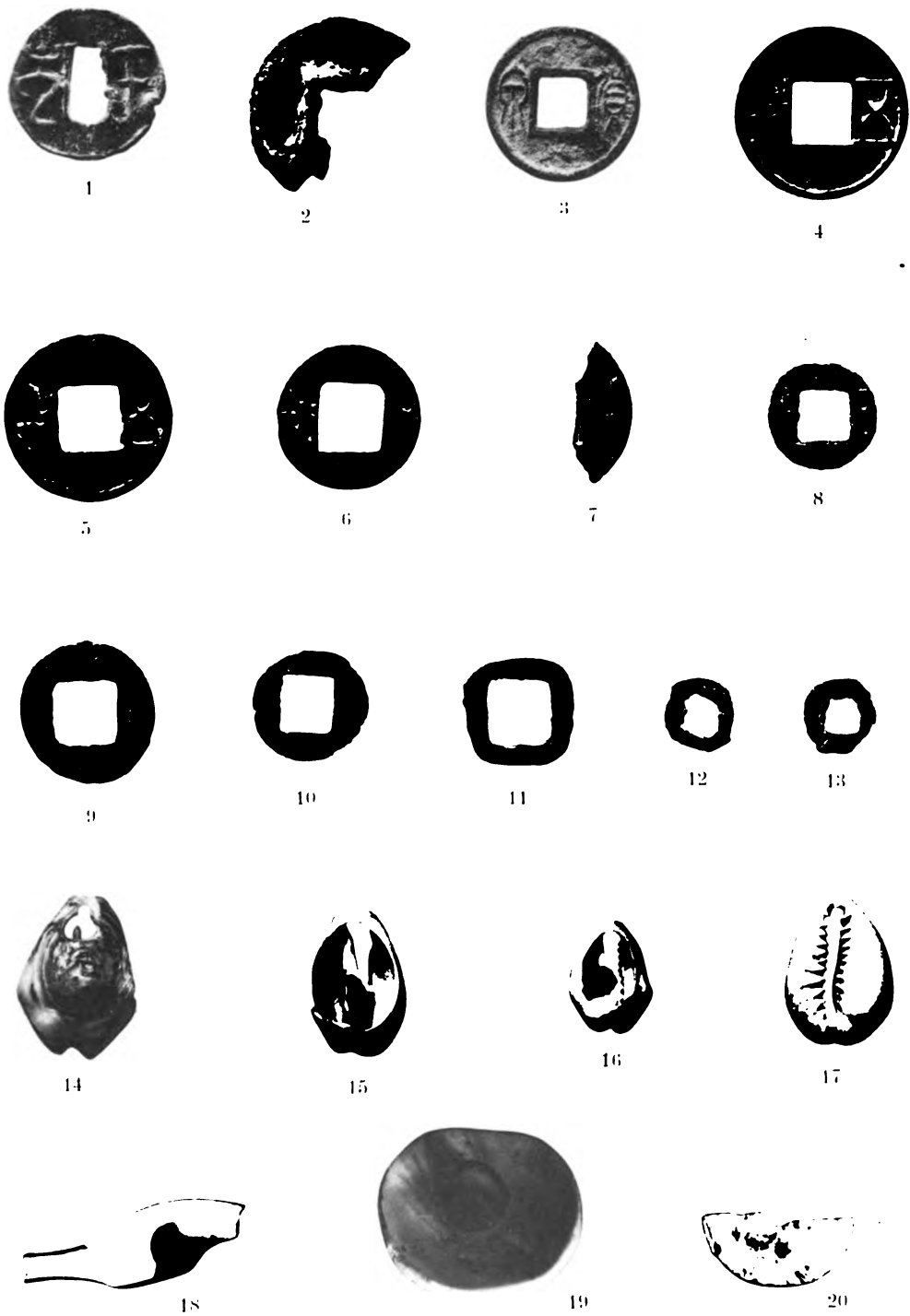


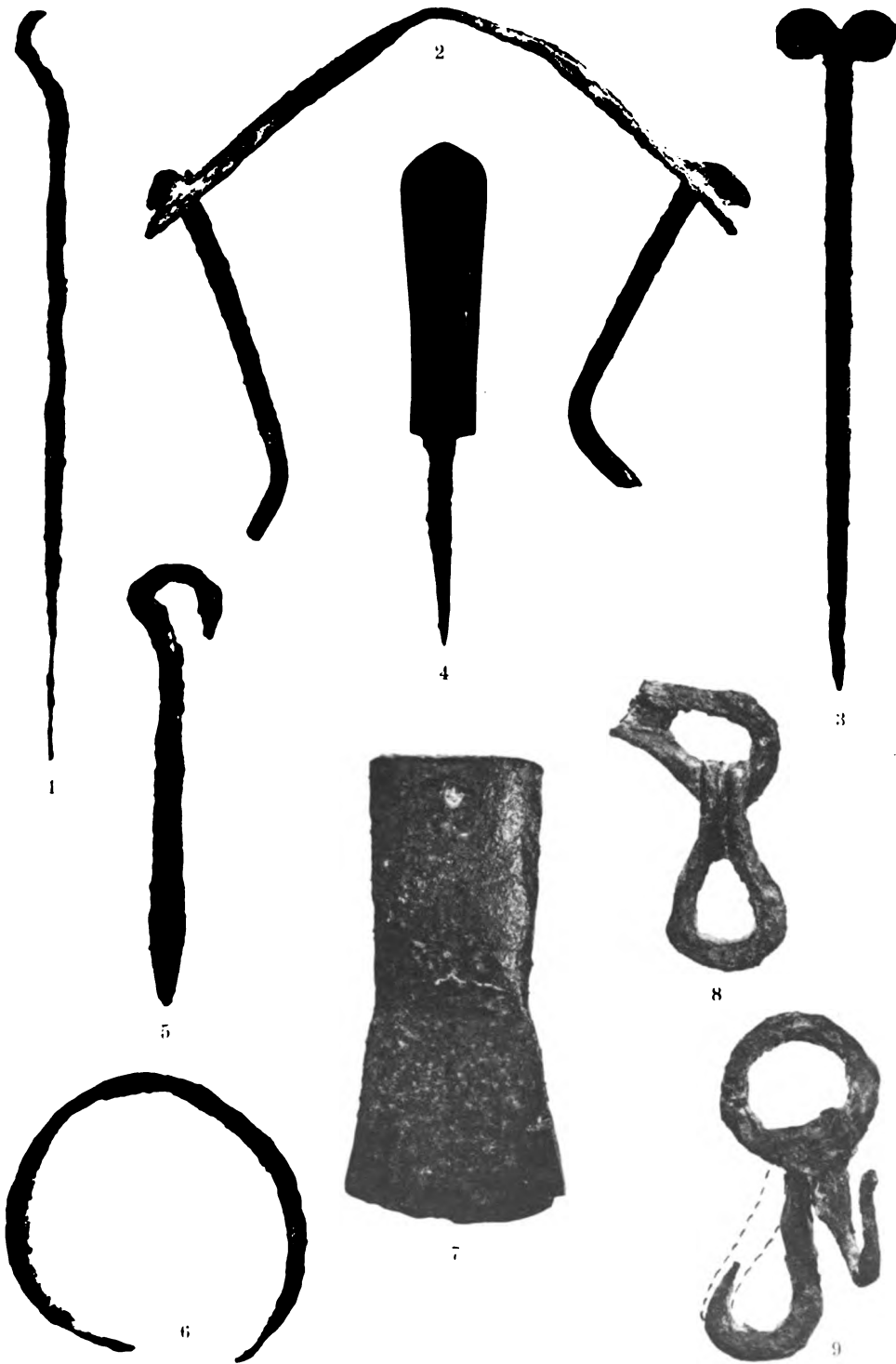
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SVEN HEDIN'S ARCHAEOLOGICAL COLLECTIONS FROM KHOTAN

BY

GÖSTA MONTELL.

TERRA-COTTAS FROM YOTKAN AND DANDAN-UILIQ.

MAIN FEATURES OF THE EARLY HISTORY OF THE KHOTAN OASIS.

This is not the place for an attempt at giving a detailed account of the history of the oasis of Khotan. Several symposia based upon documentary material have already seen the light, but in spite of a relative abundance of data in Chinese and Tibetan chronicles no very clear picture has so far been produced.¹ Here I propose merely to touch very summarily upon its outstanding events. Its prehistoric periods I pass over altogether.

Even at a very early date extremely great importance must have attached to the oases south of the Takla Makan desert in their character of halting-places for the recurrent migrations between east and west. It is, however, only from the time of the Emperor Wu Ti (140—87 B.C.) that Khotan makes its first appearance in the Chinese records. In these are found names of kings and princes, as well as brief references to political conditions. It is not easy to say when Khotan first began to experience influence from India, but it is hardly probable that legendary lore is correct when it dates the first Indian penetration to the time of Aśoka. According to the famous work *Hsi Yü Chi* by the Chinese pilgrim Hsüan Tsang, a number of chieftains of the north Indian city of Taxila (Takṣaśilā), in the extreme north of the Panjāb, were forced to emigrate to the country north of the snow mountains in order to escape the vengeance of the king.² In course of time they founded a kingdom in the district now known as Khotan, and introduced the religion of Buddhism, which here found one of its principal bases of support. The legend then goes on to relate how the god Vaiśravaṇa bestowed upon the country a dynasty whose first ancestor sprang from the head of the god's image.

From the archaeological point of view there is nothing to oppose the theory that at least a part of the Khotan population actually came from Taxila; on the contrary, there is strong evidence in support of it.

The Archaeological Survey of India have had very extensive excavations carried out at Taxila, and most valuable results have been obtained which are also of

¹ Rémusat 1820. Stein 1907.

² Beal, p. 309.

very great importance as contributing to our knowledge of the history of Khotan. A number of ancient cities and monasteries have been excavated. This region evidently was devastated by the Ephtalites in the latter half of the 5th century A.D.¹

To a certain degree the Taxila excavations admitted of some readjustment of the Gandharan chronology. Evidence was found here that the art of ancient Gandhara survived a couple of centuries longer than had hitherto been supposed, and that any appreciable decay can hardly be said to have set in before its sudden destruction. From these researches it also became apparent that in India, too, stucco figures played an important part in decorative art. Only the heads of the reliefs have been given individual treatment. This places the Buddhist art of East Turkestan in still closer relationship to the Graeco-Indian school. A comparison between the figures on the Jauliān stupa of Taxila and those of the Rawak stupa of Khotan will suffice to verify their close correspondence. As to details I shall revert thereto later.

From the adjacent site of Charsadda Gordon has recently published some interesting material relating to small figures, etc. recovered from mounds. So far as can be judged from his illustrations, these present parallels to and prototypes of the Yotkan animal figures. In Gordon's opinion they date from the centuries immediately before and after the beginning of the Christian era.²

In the Khotan oasis, as well as in Niya, Stein and other explorers have recovered fragments of documents, etc., written in a dialect closely related to the Prakrits of north-western India. These finds date from the middle of the 2nd century of our era, and show that the script used, Kharoshthi, is identical with that which was typical of Taxila and its neighbours.³ As late as the 7th century Hsüan Tsang had occasion to write of the Khotanese: »Their written characters and their mode of forming their sentences resemble the Indian model; the forms of the letters differ somewhat; the differences, however, are slight. The spoken language also differs from that of other countries. They greatly esteem the law of Buddha».⁴

On Khotan history during the opening centuries of the Christian era new light has been thrown by Professor Sten Konow's researches. By collating data found in Indian, Chinese and Tibetan sources he has arrived at exceedingly interesting results, and propounded well-founded theories which in many respects differ from those hitherto accepted.⁵

Konow has studied the entire collected material of Kharoshthi inscriptions, and coordinately therewith also aimed at establishing all available data concerning the political history of the various peoples of north-western India and

¹ Cf. Marshall 1920, 1921. Foucher 1921.

² Cf. Gordon 1932.

³ Stein 1907, vol. I, p. 163.

⁴ Beal, p. 309.

⁵ Konow 1929.

East Turkestan in so far as they had anything to do with the literary language just referred to. Kharoshthi he confirms to be a form of script which, derived from Aramaic, and developed on Indian soil, at an early period was officially used in the north-west of India. Kharoshthi script appears in its fully developed form about the middle of the 3rd century B.C., and may be supposed to have originated in Taxila. At that time no advanced form of civilization appears to have existed within the region of East Turkestan. In that area the earliest finds of Kharoshthi date from the 2nd century A.D., and are written in an Indian dialect properly belonging to western Panjāb.

The distribution of Kharoshthi script no doubt largely coincides with that of the Indo-Scythians, by whom it, above all, was used in their political administration. From Konow's investigations it appears that many of the tribes that at the beginning of the Christian era were mutually contending for supremacy in East Turkestan and north-western India were closely interrelated. Thus the Sakas, the Yüeh-chih, and the Kushans must have been Iranians and speaking some languages akin to that which was then current in the oases of southern East Turkestan. The latter language, which so far has been known as East Iranian, North Aryan, or Khotani, ought, in the opinion of Lüders and Konow, more properly be referred to as Sakish. It thus appears that the Khotan people were closely related to the bearers of the Indo-Scythian culture and it is evident that lively intercourse with north-western India was carried on. One of the most important results of this was the introduction of Buddhism.

From Konow's researches it appears that Khotan should be credited with having played a considerably more important part in history than hitherto has been supposed. Thus the great king Kanishka seems to have belonged to the ruling dynasty of Khotan, whence, in one of the years following A.D. 125, he set out on an expedition of conquest, in the course of which he founded his kingdom in north-western India. Towards the end of his reign he returned to Khotan, where he probably was murdered in the year 152.

Through Kanishka's land conquests, Indian influence was naturally strengthened in Khotan, besides which Buddhism was there firmly established. From that time Sanscrit was adopted as the literary language of religion, while Kharoshthi was retained for the purposes of public administration.

During the reign of the Han dynasty the first great expansion period of the Chinese Empire occurred. In A.D. 73 the celebrated general Pan Ch'ao conquered Khotan, and the oasis was brought under Chinese rule. It is, however, probable that its political position was a fairly independent one, and it became still more so in proportion as the imperial authority in the suzerain country gradually weakened.

On the basis of Stein's anthropometrical records Joyce has analyzed the present population of Khotan.¹ He establishes the fact that Mongolian features are absent,

¹ Joyce 1903.

but that there is a close affinity to the Aryan Tajiks (Galchas). That there is some admixture of Tibetan and Turkish blood he considers obvious. The first mentioned element no doubt originates from an early Tibetan invasion of Khotan, and it is not impossible that the legendary accounts of battles between the earliest immigrants from India and certain invaders from China are founded on this earliest Tibetan occupation. The Turks' contribution to this intermingling of blood must be dated at the period following the Mohammedan conquest. It is interesting to observe that the Khotanese of our days exactly correspond to the descriptions that Chinese writers of the T'ang period give of their ancestors.

From the prosperous era of Khotan we possess a number of exceedingly interesting accounts, of which pious Buddhist pilgrims from China are the authors. In the initial years of the 5th century the monk Fa Hsien, accompanied by some brethren in the Faith, made a journey on foot from China by way of the deserts to East Turkestan, and from there to India. I am here giving an excerpt of his narrative, because it supplies a vivid background to archaeological finds that I shall describe later.

»This country is prosperous and happy; its people are well-to-do; they have all received the Faith, and find their amusement in religious music. The priests number several tens of thousands, most of them belonging to the Greater Vehicle. The people live scattered about; and before the door of every house they build small pagodas, the smallest of which would be about twenty feet in height. They prepare rooms for travelling priests, and place them at the disposal of priests who are their guests, together with anything else they may want. The ruler of the country lodged Fa Hsien and his companions comfortably in a monastery, called Gomati, which belonged to the Greater Vehicle. At the sound of a gong, three thousand priests assemble to eat. When they enter the refectory, their demeanour is grave and ceremonious; they sit down in regular order; they all keep silence; they make no clatter with their bowls, etc.; and for the attendants to serve more food they do not call out to them, but only make signs with their hands.

In this country there are fourteen large monasteries, without counting the smaller ones. Beginning on the first day of the fourth moon, the main thoroughfares inside the city are swept and watered, and the side-streets are decorated. Over the city gate they stretch a large awning with all kinds of ornamentation, under which the king and queen and Court ladies take their places. The priests of the Gomati monastery belong to the Greater Vehicle, which is deeply venerated by the king; and they take the first place in the procession. At a distance of three or four *li* from the city, a four-wheeled image-car is made, over thirty feet in height, looking like a movable »Hall of Buddha«, and adorned with the seven preciousities, with streaming pennants and embroidered canopies. The image of Buddha is placed in the middle of the car, with two attendant Bôdhisatvas and dêvas (Brahman demigods) following behind. These are all beautifully carved in gold and silver and are suspended in the air. When the images are one hundred paces from

the city gate, the king takes off his cap of State and puts on new clothes; walking barefoot and holding flowers and incense in his hands, with attendants on each side, he proceeds out of the gate. On meeting the images, he bows his head down to the ground, scatters flowers and burns the incense. When the images enter the city, the queen and Court ladies who are on the top of the gate scatter far and wide all kinds of flowers which flutter down, and thus the splendour of decoration is offered up complete. The cars are all different; each monastery has a day for its own procession, beginning on the first of the fourth moon and lasting until the fourteenth when the processions end and the king and queen go back to the palace.

Seven or eight *li* to the west of this city, there is a monastery called the King's New Monastery. It took eighty years to build and the reigns of three kings before it was completed. It is about two hundred and fifty feet in height, ornamentally carved and overlaid with gold and silver, suitably finished with all the seven preciousities. Behind the pagoda there is a Hall of Buddha which is most splendidly decorated. Its beams, pillars, folding doors, and windows, are all gilt. Besides this, there are apartments for priests, also beautifully and fitly decorated, beyond expression in words. The kings of the six countries to the east of the Bolor-Tagh range make large offerings of whatsoever most valuable things they may have, keeping few for their personal use.»¹

The Khotan culture that was built up on Indian foundations no doubt continued to exist right up to the time of the Turkish conquest of the country. Politically speaking, the oasis has evidently passed through alternative periods of Tibetan and Chinese influence. Numerous scattered notices in the chronicles concerning Khotan have been compiled by Rémusat. From these it is apparent that at times there existed a lively intercourse with China, and an impression is conveyed of the wealth and importance of the place. Its cultivated area was of greater extent than it is at the present day, and Stein considers that it covered the whole region between Kara-kash and Yurung-kash in the northern part of the oasis.²

In the year 644 Hsüan Tsang stayed a considerable time in Khotan, and his account is extremely valuable for the identification of the many ruined sites, as has been fully proved by Stein's researches. Of the country and people he writes, *inter alia*; »This country is about 4 000 *li* in circuit; the greater part is nothing but sand and gravel (a sandy waste); the arable portion of the land is very contracted. What land there is, is suitable for regular cultivation and produces abundance of fruits. The manufactures are carpets, haircloth of a fine quality, and fine-woven silken fabrics. Moreover it produces white and green jade. — — They have a knowledge of politeness and justice. The men are naturally quiet and respectful. They love to study literature and the arts, in which they make considerable advance. The people live in easy circumstances, and are contented with their lot.

¹ Giles pp. 4—6.

² Stein 1921, vol. I. p. 93.

This country is renowned for its music; the men love the song and the dance. Few of them wear garments of skin (felt) and wool; most wear taffetas and white linen. Their external behaviour is full of urbanity; their customs are properly regulated.»¹

The final break with the ancient traditions was effected by the introduction of Mohammedanism, which devastated temples and monasteries and put an end to the intercourse that from time immemorial had existed with the great Buddhist states. When Marco Polo arrived in Khotan the change had been accomplished and all the inhabitants had become Mohammedans.

THE «CULTURE STRATUM» AT YOTKAN (BORAZAN)

On the 5th of January 1896 Sven Hedin's caravan, after a long march from Kashgar and Yarkand, filed into Khotan. It was here that equipment, servants, etc., for projected fresh journeys through the desert were to be procured, and a stay of a few days therefore became necessary.

In the home of the Russian Consul-General at Kashgar, Petrovskij, Dr Hedin had been shown the beautiful collection of archaeological objects from Khotan that his host had obtained through the agency of West Turkestan merchants. He therefore decided to visit the village of Borazan, some five kilometres to the west of the city of Khotan, where those objects had been found. On this subject his diary for January 9th says:

»Excursion to Borasan, via Shōrbāgh, the village most adjacent to Yangishahr. Gāsin and its canal (*östäng*) Kashe-östäng, whereupon one arrives at a deeply cut ravine sunk between 15 meters high, perpendicular loess walls, at the bottom of which even now a watercourse is flowing; this is the Korche river arm, here joining an exactly similar one from Khalche. A little farther on we strike the latter, and at its bottom, i.e. between two fairly widely separated ravine banks, we came upon the famous archaeological site. Here the loess banks have a height of 8 m, the water is gradually washing away the loess clay, and between these two banks stand a few small *yar*-horsts which will soon be obliterated by the action of the water; between these banks, where flows the stream — at this time of the year fed by springs but in winter also by river water — the loess clay has been washed away, and there lies bare a substratum which is rich in pebbles and stone fragments, and here — in spring-time and in summer — when the water year by year continues to carry away the super-imposed clay — the local inhabitants collect those remarkable objects of terra-cotta, bronze and precious stones, including now and again a Buddha image. In the winter-time, when very little water flows and the passage is nearly dry, no finds are recoverable, and we, too, searched to no purpose. In places the clay appeared to indicate the presence of ancient walls of buildings, and excavation revealed charcoal from old fireplaces. That these remains

¹ Beal, p. 309.

must be of great antiquity is evident from the fact that they are covered by a loess deposit 8 metres in depth, which must have required a considerable time to stratify. No doubt this area of archaeological remains extends very far below the loess, and only an insignificant portion of it has been laid bare by water erosion, although by this agency future discoveries may be expected».

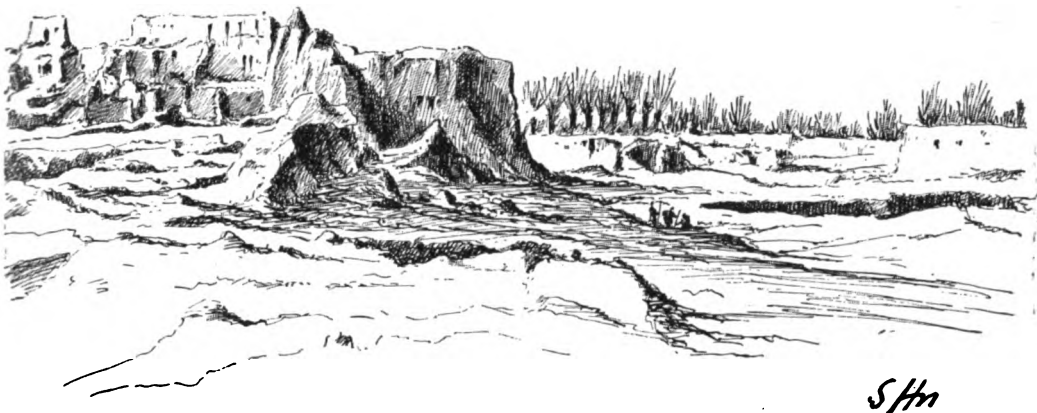


Fig. 1. The archaeological site at Yotkan (Borazan). Sketch by Dr. Sven Hedin 1896.

Writing home on Jan. 10, 1896, Hedin says: »Yesterday I visited the village of Borazan, where those remarkable Buddhist antiquities are found, but I made practically no discoveries. On the other hand the natives come along daily with their terra-cotta figures, pots, precious stones with engraved portraits, coins, Buddha images etc., and I have acquired a lot of these things cheaply enough. There is an old Tartar, of Orenburg, living here, by the name of Rafikoff, and he speaks Russian fluently. He has paid me several visits, and when I called upon him he presented me with a number of these antiquities.» —

From a later visit to Khotan there is in the diary (31. 5. 1896) the following entry: »Now natives come to me every day offering for sale silken carpets and antiquities, the latter, however, mostly consisting of trifling things, such as broken sherds and grimy coins. To-day, however, I picked up, for three *sār* a golden coin engraved with two figures — one holding one cross, the other two crosses, in its hands — in good preservation. I also acquired two extremely tattered Sanscrit manuscripts from the deserts below Hanguja, seven days' journey distant. These things had been procured for me by an Afghan, who promised to hunt up some more.»

In all, Dr. Hedin's archaeological collections from Khotan amounted to 523 numbers (apart from coins and manuscripts). A preliminary account of his finds is given in his travelling report »En färd genom Asien», Vol. II, in which a number of the objects are depicted.¹ For many reasons a detailed analysis of this mat-

¹ English edition: Through Asia, London 1898. German edition: Durch Asiens Wüsten, Leipzig 1899.

erial has been deferred until now, but in the following pages an attempt will be made to analyse it. The delay has had the great advantage that in the meantime many important collections from Khotan have become available through publications, affording abundant opportunities for comparisons.

In 1903 Dr. Sven Hedin presented all his archaeological collections to Statens Etnografiska Museum (The Ethnographical Museum of Sweden), Stockholm, which institution later as a loan deposit placed them in Östasiatiska Samlingarna (The Museum of Far Eastern Antiquities), Stockholm.

At the suggestion of Dr. A. R. Rudolf Hoernle the Government of India issued in 1893 instructions to its Political Agents in East Turkestan to collect manuscripts and archaeological finds. The valuable material thus gradually brought together was studied and published by Dr. Hoernle at about the turn of the century in the form of two monographs of fundamental importance.¹

In the year following Dr. Hedin's visit some other Europeans also came to see the Yotkan (Borazan) cultural site, and subsequently reported on it to Dr. Hoernle, who writes as follows:

»This place was visited by Messrs. Högborg and Bäcklund, Swedish Missionaries in Kashgar, in 1897. It was also visited by Mr. Macartney in the spring of the same year. In his demi-official letter, No. 121, dated 21st July, 1897, he states that 'It is a largely populated village about 5 miles west of the Khotan Chinese city. Some gold ornaments, beads, precious stones (diamonds and *hadik*) and terracotta images have been discovered there'. In a private letter, dated the 20th October, 1897, Mr. Macartney informs me that when he visited Borazan, he 'found a number of villagers engaged in digging into the side of a loess cliff, the lower portion of which visibly contained a large quantity of broken pottery, bones and decomposed vegetable matter. The stratum in which the excavations were being made was about 12 feet below the level of the present village. The layer which lies immediately above this formation, and on which stands the village, is also of loess; but it is noteworthy that this upper layer shows no streaks or stratification, a fact which points to the conclusion that the deposit was formed during one single flood. Geologically speaking, therefore, there appears nothing furnishing an indication of the time during which the lower stratum has been covered. I enquired of the villagers whether there was any tradition about Borazan having once been destroyed by flood, but no information could be elicited on this point. They knew nothing about it'. Mr. Bäcklund, however, informs me, in a letter, dated the 10th of October, 1898, that 'Borazan is said to have been a large town with forty gates, which was conquered by a Rustam who burnt it and led a rivulet into the place. These things are said to have taken place before the Moslim time'. He adds that 'the town in the place seen by me is now buried under the mud up to 25—30

¹ Hoernle 1899, 1902.

feet, as it seemed to me. It is an archaeological site where clay images have been found» (Hoernle 1899, pp. XII—XIII).

From Mr. Högberg, one of the Swedish missionaries just referred to, the Ethnographical Museum in Stockholm acquired in 1901 a collection of pottery fragments, etc., from Yotkan, probably obtained during the above-mentioned visit. Many of these fragments are, from various points of view, of great interest and will be dealt with below.

The Russian Government likewise caused their agents in East Turkestan to procure collections for the museum at St. Petersburg. The above-mentioned Petrovskij collection was described by G. Kiseritskij as early as in 1896.

The French expedition under leadership of M. J. L. Dutreuil de Rhins in the years 1891—93 also visited Khotan, and the other member, M. F. Grenard, whose sojourn at the place was of some duration, has made extremely valuable contributions to the study of the archaeology and ethnology of the oasis. It is probable that he was the first to identify Yotkan with the ancient capital.¹

In November 1900 Sir Aurel Stein arrived at Khotan on his first important archaeological expedition, and he then also visited Yotkan, of which he gives a detailed description.² About a mile and a half west of Yotkan, at Chalbash, there begins a ravine which joins those at Kashe, a mile east of Yotkan. At a swampy place where the ravine slightly widened out the local inhabitants used to collect pottery fragments and objects of gold. Washing operations were then instituted, and these evidently yielded good results.

According to information given to Stein, the ravine in question, the so-called Yotkan Yar, came into existence sometime about 1868 or 1870 owing to the fact that the irrigation canal by means of which water was brought from Karakash was then beginning to cut down through the loess soil. When reports of archaeological finds reached the governor, Niaz Hakim Beg, he at once organized excavating and washing work on a large scale, and the work has been carried on ever since, with a certain measure of success. These operations widened the ravine more and more, so that Stein estimated the excavated area at »more than half a square mile».

The archaeological stratum, the southern and western section of which is from 5 to 8 feet deep, and its northern section 13 to 14 feet, is of a brownish colour and consists of the remains of miscellaneous refuse, as well as, probably, structural remains. The superimposed surface layer has a depth varying from 9 to 20 feet, is devoid of any trace of later habitation, and has, as Stein points out, undoubtedly been formed by the sludge that has been spread out over the fields by the irrigation canals. Previously there had obtained a fantastic belief in an immense flood by

¹ Grenard, pp. 127—134, 137—139.

² Stein 1903, pp. 257 et seq. Map of Yotkan—Stein 1907, pl. XXIII.

which the former city had been obliterated, a theory in support of which, according to Stein, no acceptable evidence can be advanced.¹

On his visit above referred to, and also on subsequent occasions Stein got together large collections of ceramics, etc., excellent accounts of which have been published. With the beginning of the present century this goldwashing seems to have declined in importance, owing, among other things, to agriculture having become more profitable.² Hence the harvest of pottery fragments, coins, and the like, has declined, although Stein as well as other explorers have nevertheless collected a good deal of interesting material. Among the more casual visitors who have obtained from Yotkan archaeological collections and subsequently printed descriptions and illustrations of them special mention may be made of Mr. O. T. Crosby and Miss E. Sykes.

In his vivid and interesting descriptions of East Turkestan C. P. Skrine writes, *inter alia*, as follows: »Our most interesting excursions, however, were in November, 1922, and May, 1924, when we visited the site of Yotkan, the ancient capital of the Kingdom of Khotan, some five miles south-west of the modern town. A few months before our first visit a great mass of loess bluff some 20 feet high had fallen away owing to erosion by irrigation water and had laid bare a new section of the Yotkan 'culture stratum' from 2 feet 3 inches to 5 feet 4 inches thick, lying at an average depth of 15 feet below the upper level of the fields. The composition of this stratum was of a stiff bluish clay, and its contents consisted chiefly of potsherds, animal bones, lumps of charcoal, coins and small metal objects corroded almost out of recognition, fragments of white jade, red and green glass and so on. But more valuable and interesting objects had also been found by the treasure-seekers who had been washing the clay of the stratum for gold most of the summer. In this place where 'trippers' were unknown it did not seem to occur to these people that we might be ready to buy curios found by them during their washings for gold in the stratum, and it was only with the greatest difficulty that we induced them to bring along a few articles they had found. Anything containing gold or precious stones, good jade, etc., had of course been sold in the Khotan bazaar long before, but we succeeded in buying from the villagers a few objects of interest. Of these the best were a beautiful little soapstone figure of the goddess Sarasvati and her peacock, a couple of carnelian intaglios and some quaint clay animals.»³

A small collection of pottery specimens from Yotkan and other archaeological sites in East Turkestan have been brought to Sweden by Dr. Nils Ambolt, astronomer of the Hedin Expedition. The Museum für Völkerkunde, Berlin, has through von Le Coq's expedition acquired similar material, which the present writer has had the privilege of studying by means of photographs that very courteously were placed at his disposal. Trinkler's collections in Museum für Völkerkunde, Bremen, are not

¹ Cf. Mr. George Macartney's letter, Hoernle 1899, p. XIII.

² Stein 1921, vol. I, p. 94.

³ Skrine p. 171.

yet published but have been studied during a personal visit in the Museum. The National Museum of Helsingfors has archaeological material from Khotan brought together by Field-marshal Baron C. G. E. Mannerheim.¹

TYPES AND SHAPES OF YOTKAN POTTERY.

As has already been pointed out, all the material so far published from the Yotkan culture stratum originates from the finds made by the gold washers. Systematic research, in which everything found would have been preserved, has in no case been carried out. A natural consequence of this is that we know a mass of decorative details, but exceedingly few complete vessels. Of the types of purely everyday pottery we know practically nothing. Undecorated potsherds were always thrown away by the treasure-seekers as being valueless. In the following I propose to make an attempt at summarizing the leading pottery types such as they appear from the archaeological material.

Of plain utility vessels from Yotkan I know only a few, as I have said, and those have been published by Sir Aurel Stein. Seeing that a highly developed metal-working technique existed, one can hardly expect to recover any number of earthenware cooking vessels. On the other hand there ought to be found jars, pitchers and dishes for keeping and serving food, wine, etc., yet Sven Hedin's collection does not include a single plain earthenware vessel of that kind. Those acquired by Stein have almost universally only one handle, fairly narrow neck, and are footless.² A jug, remarkable for its well-balanced proportions, was acquired on his first visit. Its resemblance to Greek vessels of the type known as *oenochœ* is striking.³ Two small vessels of fruit shape, and of better finish, are likewise only provided with a single handle.⁴

Stein also shows a small, plain clay vessel, handleless, but with a low neck and wide mouth. It has been blackened by smoke, and has evidently been used for cooking purposes, or the like.⁵

Although there are among the Yotkan finds exceedingly few clay vessels that are complete, we are not entirely without other possibilities for obtaining information about pottery types. The many miniature vessels may well be considered as essentially trustworthy models. They were probably manufactured for the purpose of being used as toys. There are a good many such ones in the Hedin collection. The *oenochœ* type referred to above is represented, Pl. XVII, 16, and other jugs of clumsier shapes have similarly only one handle, Fig. 2, Pl. XVII, 21, 23, which also



Fig. 2. (03.11.336). Small terra-cotta vessel. 1: 1.

¹ Donner, pp. 32—33. Tallgren 1919.

² Stein 1921, vol. IV, pl. IV (Khot. 00102, Yo. 0060). 1928, vol. III, pl. I (Yo. 0158).

³ , 1907, vol. II, pl. XLIII (Yo. 0024). Cf. Gjerstad, pls. CXXXVI—VII.

⁴ , 1907, vol. II, pl. XLIII (Y. 0027 a, Y. 0028).

⁵ Stein 1928, vol. III, pl. I (Yo. 02).

applies to the small vessel of prism shape, Pl. XVII, 20. Similar miniature vessels are also illustrated by Hoernle and Stein.¹ The models so far referred to are evidently designed to represent comparatively simple vessels, but examples occur of somewhat more perfected types. One of these once had a relief ornament in the form of a bird whose wings and body were attached to the wall of the vessel, while the neck, now broken off, and the head projected from it, Pl. XVII, 19. The flat and broad handle on another miniature vessel, Pl. XVII, 17, is suggestive of metal objects belonging to early Mediterranean civilizations.²

Clay vessels with two handles are not found in the Hedin collection, but several are depicted both by Hoernle and Stein.³ An exceedingly beautiful specimen is described by the latter as »having the shape of a pilgrim bottle and resembling Samian ware.»⁴ Its applied relief decoration is typical of Yotkan. Stein possesses a fragment of an amphora-like vessel, probably once of a tall and slender shape with incised ornamentation.⁵

The types of Yotkan ceramics dealt with in the foregoing do not present any especially remarkable features. Similar types are found in various localities in Asia. Three-handled vessels, on the other hand, appear to have constituted the show-pieces upon which decorative ornamentation was concentrated. I should at once mention here that, so far as I know, not a single vessel of this type has been recovered in its entirety; on the other hand, larger or smaller fragments have been found in abundance. Those acquired by Sven Hedin in 1896 still form the most valuable part of the material. Pl. III, 2 shows the most nearly complete of the examples in its present state, while Pl. II, 1 illustrates a reconstruction with the missing parts added. Shape and proportions will be apparent from the illustrations. The body of the vessel is widest at about two thirds of its height counting from the bottom, and at that point a thick appliqué band with dentated edges runs round the vessel. The foot is only 1 cm. high. From the reinforcing rim the shoulder narrows sharply towards the neck, whose diameter is less than one third of the greatest diameter of the body. From the upper part of the shoulder issue the three outward-curving handles. At its top-part the neck again widens so as to form the mouth, and to this the upper ends of the handles are attached. The decoration consists of incised parallel lines as well as of moulded ornaments applied before firing. Below each of the handles was placed an appliqué moulded ornament.

Another vessel of the same type, though smaller, is seen in Pl. III, 3. Only the

¹ Hoernle 1899, pl. XIX, Nrs, 21, 40, 44. Hoernle 1902, pl. VIII, Nr. 9. Stein 1907, vol. II, pl. XLVI (Yo. 0012 x).

² Cf. Kiseritskij, fig. 23.

³ Hoernle 1899, pl. XIX, 41—43, 45. Stein 1921, vol. IV, pl. III. Stein 1928, vol. III, pl. I (Y. 01).

⁴ Stein 1928, vol. III, pl. I (Yo. 01). Cf. Marshall 1921, pl. XXVI. Cf. Gjerstad pls. CXXXI, CXXXIV.

⁵ Stein 1907, vol. II, pl. XLIII (Y. 0022).

body with its appliqué ornaments is preserved, while the whole of the neck and the three handles are missing. In place of the reinforcing band of the foregoing, there are here two incised lines between which a row of dots are indented.

Pl. IV,1 represents the upper part of a fine large vessel, which on the lines of those already described is shown reconstructed in Pl. I. Here all three handles, the neck, and part of the shoulder are preserved. Apart from its decoration, which will be dealt with further on, this fragment is of great interest as it shows the wide, cup-shaped mouth, which was circular, i.e. without a lip. Like those mentioned in the foregoing, this vessel shows distinct marks of the throwing process. Two more necks of clay vessels of this type will be described, along with their decorative designs.

Both Hoernle and Stein have published parts of similar vessels.¹ A miniature vessel in Högberg's collection is of the same type, Pl. XVII, 22.

In his treatise published in 1902 Hoernle dwells at length especially upon three-handled clay vessels. On the basis of the available material, which included the illustrations given in Sven Hedin's work »Through Asia», he attempted a reconstruction of this type. Up to the present, however, it cannot be determined with any certainty whether he has succeeded in giving an essentially correct picture, seeing that no vessel with griffin handles has yet been recovered. That it deviates in several details from the original may be accepted as fairly certain. At any rate the shaping of the mouth, the placing of the appliqué ornaments, the arrangement of the masques, etc., do not agree with the material collected by Hedin and Stein.

There can be no doubt that there existed in the Yotkan culture a number of types of clay vessels that have hitherto not been recovered. We possess fragments that indicate this fact, and I shall recur to this question in my discussion on decoration.

Moreover Hoernle, though early in the field, interested himself in the geographical distribution of the three-handled type. He showed that clay vessels with three identical handles are known from the early Mediterranean culture but not from classical times.² A number of vessels of this type have been illustrated and described by Forsdyke.³ It should be noted, however, that these vessels of the late Mycenaean era generally appear to have had small handles, with their upper junctions similarly resting against the shoulder. This point of correspondence may not, however, prove to be of any very great importance.

Unfortunately I have not had an opportunity of finding, to any very adequate extent, material from India for purposes of comparison. It is highly probable that an intimate knowledge of Indian ceramics of the centuries next before and after

¹ Hoernle 1902, pl. VIII, 2, 8.

Stein 1907, vol. II, pl. XLIII (Y. 0023).

Stein 1928, vol. IV, pl. I (Yo. 04).

² Hoernle 1902, p. 43.

³ Forsdyke, pp. 144—148.

the beginning of the Christian era would provide valuable clues for tracing the prototypes of the Yotkan pottery. Cousens has published a description of a clay vessel from Brahmanabad, a three-handled one apparently.¹ At Taxila a number of clay vessels have been found corresponding to those of Yotkan, but the majority of them are of plain shape.² Some of them have two handles, others are provided with one handle and a spout. Three-handled vessels are absent.

In the Hedin collections from Yotkan are preserved two examples of the peculiar clay vessel type known as bifrons vessels. As the name indicates, the body of such

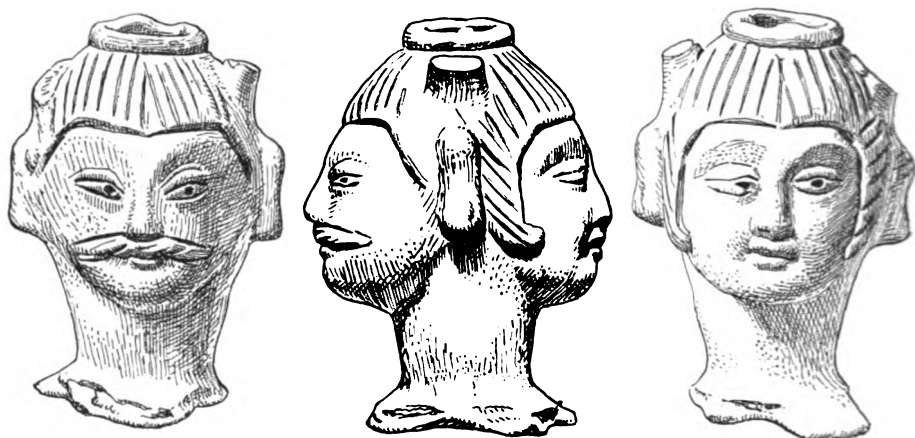


Fig. 3. (03.11.246). Terra-cotta bifrons vessel. Cf. Pl. III, 4 a—c. 2: 3.

a vessel is decorated with a human face on either side, so that each of these faces forms the occiput of the other. It is typical of these vessels that in every case one face is male and the other female. The vessel consists of two halves, moulded separately and stuck together before firing. Their junction runs through the median axis of the vessel and the projections that represent the jointly possessed ears. Immediately above these a horn projects obliquely on each side. Whether these horns are rudimentary handles, or whether they served as points of attachment for a possible suspension cord, I am unable to determine. Pl. III, 4 a—c shows one of these vessels, which is almost intact. The foot, which is composed of the neck possessed in common by the two faces, is of small diameter, and it appears probable that the vessel was principally designed for hanging.

The second example in the Hedin collection, however, had a foot of greater width and stability, Fig. 3. It has a short neck with a narrow mouth. The male face has sharply defined moustaches, while the female face is adorned in front of the ears with locks recalling side-whiskers, a feature also very typical of the clay figures that will be dealt with further on.

¹ Cousens, pl. X.

² Marshall 1920, pl. XX—XXII. Marshall 1921, pl. XXV—XXVI.

Stein, too, added a vessel of this type to his collection.¹ It very readily occurs to one to connect these vessels with their antique counterparts. From Mycenaean times and right up to the Greco-Roman era, similar representations in stone, clay or glass are known.² They appear to have been especially popular in Cyprus, whose part as a prominent factor in the history of the development of the Mediterranean culture is being more and more recognized.

The bifrons vessels of the Yotkan ceramics may undoubtedly be set down as late descendants of the antique types. There exists a close resemblance, but considerable divergences also occur. Thus, for example, the Yotkan vessels universally carry a male and a female face, while their classical counterparts are decorated either with two female or two male heads.³ Again, a narrow neck and mouth are characteristic of the Yotkan finds, while the antique ones often consist of wide cups on a low foot.

A quaint Janus head in bronze, from Yotkan, is depicted by Stein among his acquisitions from his second expedition to East Turkestan.⁴ A similar object in the Hedin collections will be described in Vol. 9 of this Bulletin.

It is not impossible that the inception of the bifrons type may be dated as far back as the Sumerian culture. On this point Contenau writes: »Nous voyons sur de nombreux cylindres où figurent un grand dieu et un fidèle ou un dieu secondaire devant lui, ce personnage à deux visages, servir d'intermédiaire entre le dieu et ceux qui s'adressent à lui.»⁵

STYLES OF ORNAMENTATION IN YOTKAN POTTERY.

In Yotkan ceramics, ornamentation consists of two entirely different kinds, namely incised ornaments and reliefs, or figures previously manufactured in moulds and subsequently stuck on to the vessel. The fact that both kinds often appear on the same vessel does not prevent their conveying an impression of belonging to different periods. Our knowledge of the earlier periods of the history of East Turkestan is, however, still too imperfect to allow of any authoritative pronouncements being made.

The incised or impressed ornaments are as a rule very simple, and therefore contrast fairly sharply with the relief ornamentation founded upon classical prototypes. The upper part of a vessel with three handles, shown in Pl. IV, 1, presents the most common elements that recur without much variation in numberless pottery fragments. In the throwing process a number of parallel lines have been incised, and these have been partly overlaid by reliefs stuck on. Along the middle line of the handles there runs a row of double circles with an indented dot in

¹ Stein 1907, vol. II, pl. XLIII (Y. 0030).

² Ohnefalsch-Richter, pl. XXXI, 31—38. Eisen, pl. 74.

³ Cf. Evans, fig. 4, N:r 1210.

⁴ Stein 1921, vol. IV, pl. VII (Yo. 00174).

⁵ Contenau, vol. II, p. 627.

their centre, and a similar motif indicates the junction between the body and the neck of the vessel. As a rule it occurs also on the rim of the mouth. The shoulder is decorated with single grooves surrounded by rows of dots alternating with strokes appearing in pairs.

Stein depicts a fragment of a large vessel, presumably originally of amphora shape, which is exclusively ornamented with incised lines.¹ In some places lines in pairs alternate with lattice lines. In other vessels there occasionally occurs incised »herring-bone» ornamentation.

Types of clay vessel handles.

In the various collections that have been obtained from Yotkan clay handles constitute a prominent element. They formed an exceedingly important part of the decorative scheme. It is not always possible to determine to what type of vessel they belong in each case, and I shall not dwell on that point in the following.

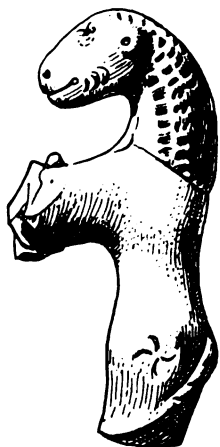


Fig. 4. (03.11.301).
Fragment of «lion-
shaped» handle. 2:3.

Pl. II, 1 and Pl. I give examples of comparatively simple handles, only decorated with circles and strokes, and of this type Stein, too, publishes some examples.² Occasionally they have been provided with a couple of relief figures at their bases, shaped in moulds and affixed prior to firing, Pl. VI, 2.³ Of greater interest are such handles as have been given a zoomorphic character, as they distinctly reflect the dependance of the Yotkan ceramics upon the classical civilizations.

Handles of lion-shape.

It cannot, I think, be doubted that the animals represented by the handles seen in Fig. 4 and Pl. VII, 1—2 are lions. It is true that conventionalization has been carried very far, but several essential features nevertheless remain, such as the sinuous body, the mane covering the neck, and the long tail. The face is stereotyped, with round eyes produced by the impress of a ring, in the centre of which a dot indicates the pupil. The nostrils are similarly represented. Rows of impressed segments convey an excellent illusion of a curly mane. The handles are universally moulded, being separately manufactured in two longitudinal halves, pressed together and worked over. An incised line, running from the forehead over the top of the head down to the point where the neck joins the body, is drawn along the seam.

Hoernle reproduces a fragment of a vessel giving an excellent idea of how the

¹ Stein 1907, pl. XLIII (Y. 0022).

² Stein 1928, vol. III, pl. I (Yo. 04).

³ Stein 1907, pl. XLV (Kh. 003 m).

lion-shaped handles are placed.¹ The forelegs, which like the hind-legs are always joined together so as to form a support, rest against the neck just below the outward-curving rim of the mouth. The point where the hind-legs are attached is situated roughly in the centre of the shoulder. Thus the head would project above the rim of the vessel.

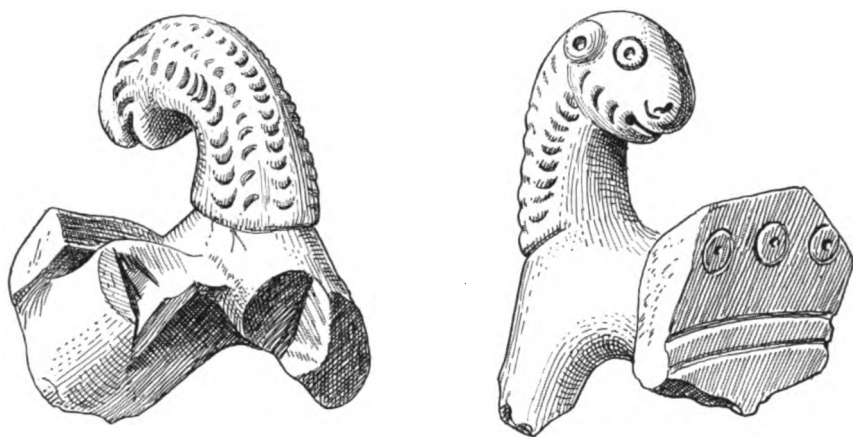


Fig. 5. (35.24 Ambolt coll.). Fragment of double «lion-shaped» handle. 2: 3.

In Ambolt's collection from Yotkan there is an interesting fragment which clearly illustrates how occasionally two such lions were joined together to form a double handle. The portion of the rim that is preserved carries the same annular ornamentation as the one depicted in Pl. I, and it is probable that the vessel in question had three pairs of such double handles, and that it was of a type similar to the reconstructed vessel. In »Serindia» Stein depicts a fragment of a double handle of this type with two lion heads.² Another example is found in the Berlin collections.

The frequent occurrence of lion figures in early Indian art is so well known that there is no need for me to dilate upon the subject. I should merely like to mention the fine crowning figures of the so-called Asoka columns.³

Handles of griffin-shape.

In all collections from Yotkan fragments of figures representing birdlike animals occur in greater or less numbers. They have been described as winged horses, or even as if the head represented that of a camel. Both of these suppositions are contradicted by the unmistakable horse and camel figures that will be described further on, and which are of an entirely different character. I am inclined to refer the figures in question to the numerous race of fantastic Oriental animals, and to describe them as griffins.

¹ Hoernle 1902, pl. VIII, 8.

² Stein 1921, vol. IV, pl. II (Yo. 0045 e).

³ Cf. Coomaraswamy 1927, pl. IV.

Like the lion representations just referred to, the griffin figures served as handles of clay vessels. The forelegs and the hind-legs, each pair joined together, combine to form supports, the forelegs resting against the upper portion of the neck of the vessel, and the hind-legs against the shoulder. So far no clay vessel has been recovered with this type of handles still preserved.

Pl. IV, 4 reproduces a very fine example from amongst the Hedin collections. It has belonged to a very large vessel and is strongly modelled. On a maned neck rests an eagle's head, from the crown of which rises a projection built up in offsets like the horn of a unicorn. The wings are short, folded on the back and issuing from a disc with incised ornamentation at each shoulder. A short tail bends upwards along the back. The loins are provided with voluted ornaments of which the rays terminate in small

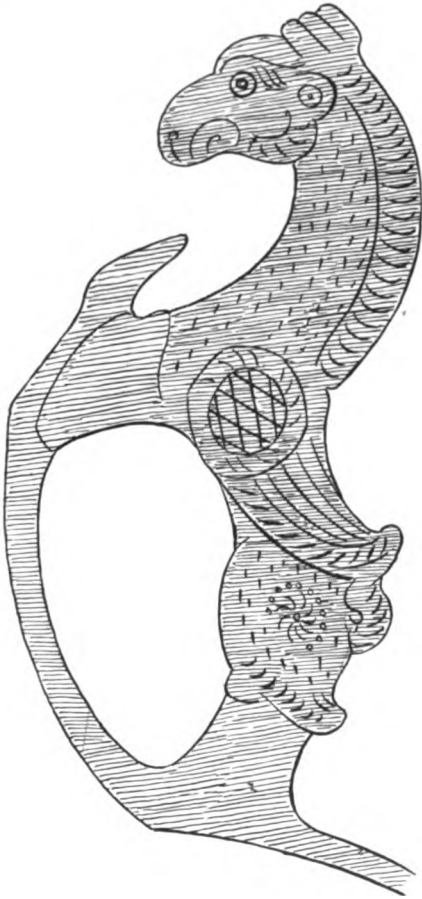


Fig. 6. Reconstruction of «griffin-shaped»
handle attached to wall of vessel.
Cf. Pl. IV, 4. 1: 2.



Fig. 7 (03.11.297). Head of «griffin-shaped»
handle. 2: 3.

circles. The support to the hind-legs is unfortunately broken off, but with the aid of other finds its length can be determined approximately, cf. Fig. 6. At any rate the larger figures of this type have on their bodies scattered short incised lines, possibly meant to indicate feathers.

Fragments of this type of handles occur, as already mentioned, in large numbers and in varying dimensions.¹ They are made in two halves, pressed in moulds and put together, and then affixed to the vessel.

¹ Kiseritskij, fig. 12—13. Grenard, pl. VII. Hoernle 1902, pl. VIII. Stein 1907, pl. XLV. Stein 1928, vol. III, pl. III. Tallgren 1919, figs. 14—15.

That this decorative creation of fancy is connected with similar objects elsewhere may be regarded as self-evident. The fabled fauna of the Orient has hardly been fully explored as yet, as fresh material is constantly turning up. As early as in ancient Susa the griffin occurred fully developed, and Contenau published an example which he dates at about 3000 B.C.¹ According to the opinion expressed by Strzygowski, the origin of the idea may be traced back to the nomad peoples of Central Asia.² It is not surprising that we find it a popular motif in Indian art, which at different times received its strongest impulses from the north-west. Already in the pre-Hellenic style the griffin occurs among the sculptural motifs of the Maurya, Sunga and Andhra periods.³ On Indian soil the Near Eastern elements developed afresh, were inspired with new ideas, and became bearers of the figures of a luxuriantly expanding mythology. The fabled animals surrounding the bodhi-tree at the eastern gate in Sanchi include griffins, the heads of which strongly recall the Yotkan clay-vessel handles.⁴ On their foreheads the former also wear a crest, or tuft, which may well be supposed to have developed into the horn-like projection on the foreheads of the latter. Griffins akin to these, executed in relief, are depicted from Bāmiyān.⁵

The evolution of the Garuda type is no doubt connected with the griffin motif from the remotest antiquity.

Appliqué reliefs decorating clay vessel necks.

As already mentioned, in the most elaborately ornamented vessels of Yotkan ceramics the decoration is concentrated upon handles, neck and shoulder. With a view to clearness I propose here also to arrange the material in groups according to the relation of the details as to form and placing.

Gandharvas.

One fairly frequently recurring type of comparatively large and vigourously executed reliefs is usually identified as representations of Gandharva, cf. Pl. V, 3 and Fig. 8 a—b. They represent female beings seated on lotus thrones and holding heavy garlands, their arms raised. Only the upper portion of the body of the figure is visible. Variations of this theme are but slight, relating only to the pose of the hands, the execution of the neck ornament, the shape of the garland, etc. As to their position on the vessel and what purpose they served we can see quite well from a couple of fairly large ornaments illustrated by Hoernle and Stein,

¹ Contenau, vol. I, figs. 295.

² Strzygowski, p. 296.

³ Coomaraswamy 1929, p. 11.

⁴ Grünwedel 1920, fig. 19.

⁵ Hackin 1933, pl. LXXVIII.

respectively.¹ These reliefs formed part of the decoration belonging to clay vessels of considerable size and provided with three handles. As is evident from the fragments in Sven Hedin's collections as well as from Stein's finds, the material in these vessels must have been of unusual thickness. The figures rise in strong

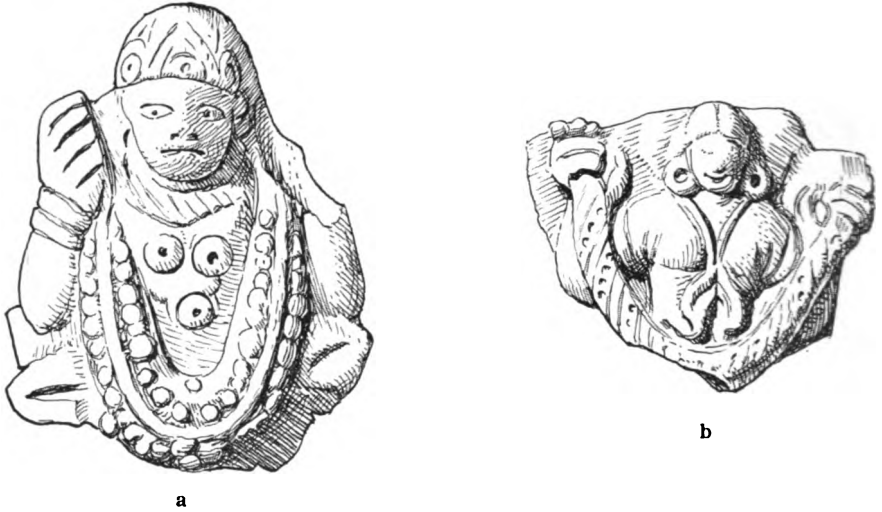


Fig. 8 a. (03.11.217). Fragment of neck of big vessel with appliqué relief. 1: 1.
Fig. 8 b. (03.11.222). Fragment of neck of big vessel with appliqué moulded relief. 1:1.

relief from the neck, which is decorated in the usual manner with impressed circles and lines. In addition there are the small and thin reliefs representing musicians etc., and these will be described later.²

Fig. 8 b shows a Gandharva representation of this class, remarkable for its fine plastic execution.³ The bust part is modelled with exceptional elegance and softness. The ears are ornamented with large circular discs, and behind the head is discernible an aureole represented by a circular disc. The garland is of a type identical with that found in early Indian friezes. It does not appear to me improbable that these Yotkan Gandharva reliefs may constitute a later form of development of the above-mentioned friezes which, so to speak, have been broken up so that one segment of the garland has been retained by each of the figures.

I am here using the generally adopted term Gandharva for these relief figures while fully recognizing how weak are the grounds on which this term must be considered to be based. Foucher very properly points out the risks involved in any attempt to identify images of the genii, demigods and demons of which Buddhism contains an innumerable host. The Gandharva, however, are tutelary deities who sustain

¹ Hoernle 1902, pl. VIII, 2. Stein 1907, vol. II, pl. XLIII (Y. 0023).

² Cf. Hoernle 1902, pl. VIII, 2, 4.

³ Cf. Stein 1921, vol. IV, pl. I (Yo. 0040).

themselves on incense fumes and execute celestial music, and they would have appealed to the imagination of the inhabitants of the Khotan oasis who were always known for their devotion to music. The Gandharva are supposed to be subordinate to Dhritarashtra, one of the four Kings of Heaven, who is the Lord of the East.¹

Among the material of reproductions of ancient Indian art which I have had available for study, I have been unable to find anything directly corresponding to these Yotkan relief figures. That the type as a whole is founded on Indian tradition is obvious, and I have already pointed out that there exists a certain correspondence as to details.² Garland-bearing worshippers occasionally occur in Gandharan art, but they are there executed in a more unconventional and naturalistic style.³

An example of a type resembling the Gandharva figures is reproduced in Pl. V, 4. It represents a man putting a bowl to his mouth. He is adorned with a large garland which hangs in a curve from his shoulders.

In the cave paintings of Kucha this motif is found in a different form. There garland-bearing Gandharvas are seen floating in the air in highly acrobatic postures.⁴ It is probable that paintings of this type once existed on the temples of Khotan, although nothing of that kind has been preserved for the reason that the upper portions of the walls and the roofs have everywhere been obliterated.

«Bacchus» figures.

Among the shoulder-ornament reliefs contained in the Stockholm collections one or two call for particular attention as they constitute the most complete examples of their type that have so far been recovered. Pl. V, 1 shows the one in the best state of preservation (from Högberg's collection), while in Fig. 9 the same object is seen after having been reconstructed by the aid of details from other fragments.⁵ The relief represents a man seated with one knee drawn up and the other resting on the ground. Under his right arm he holds a wine-skin (?), while in his left hand he holds an elongated object raised above his shoulder. On his head is a bordered, peak-shaped piece of headgear resembling the kind worn by the Kirghiz of to-day. The upper part of the body is naked down to the narrow loin-cloth, a suggestion of which is seen below the navel. The posture is easy and at the same time well balanced, and the workmanship is of unusually good quality.

It is not difficult to find parallels to and prototypes of this piece of composition in the realm of Indian culture. Among the Atlantides figures on the Jauliān Stupa, remains can be seen of a figure expressing a kindred motif.⁶ Here, as in many

¹ Cf. Grünwedel 1900, Getty.

² Foucher 1905/22, fig. 117. Waldschmidt, fig. 11 a.

³ Foucher 1905/22, fig. 79, 459.

⁴ Grünwedel 1920 (2), pl. XIII, XIV.

⁵ Marshall 1921, pl. X 1.

⁶ Stein 1921, vol. IV, pl. I (Yo. 0042, b). Stein 1928, vol. III, pl. I (Yo. 08). Ryojun Catalogue, pl. LXXI.

other cases where we are seeking some connection between the Yotkan pottery reliefs and Indian sculptural art, we have to content ourselves with features of general resemblance and certain points of correspondence as to details, but these are of such a nature, and appear in such numbers, that a very close connection is beyond all contradiction.

The Bacchic type here dealt with appears to be closely connected with the group



Fig. 9. Reconstruction of the relief Pl. V, 1. 1: 1.

of figures that Scherman refers to in his interesting paper as the »Dickbauch» type. In this treatise he establishes that the deities of ancient India were by no means averse to the pleasures of wine-drinking. In the early Mathura reliefs are found representations vividly recalling the Yotkan type.¹ The posture and character of the seated figure are approximately identical. In his right hand he is holding a bowl, which in Pl. V, 1 is paralleled by the mouth of the wine-skin, while in his left hand he holds the bag-like object that our Yotkan Bacchus raises aloft. This type of figure has undergone remarkable modifications in the course of time, and quite a number of deities have been made to materialize in this exuberant human shape. It is but natural that the Gods of Wealth and Abundance especially appear in this form. The object carried in the left hand of the Yotkan figure has frequently been turned into a money bag, and it is probable that the mongoose ejecting jewels

¹ Scherman, figs. 12, 14, 19.

From its mouth, which is an attribute of the Kubera images of Lamaism, is of the same origin.

The Yotkan relief, however, appears to be a purely profane Bacchic representation. The bag-like object may well be accepted as some kind of drinking-horn from which the wine is poured in a jet, without putting it to the mouth. Scherman depicts, from Oldenburg, a silver bowl from North West India whereon is seen a figure which, surrounded by bunches of grapes, is drinking his wine in this way. The parallel is made complete by the presence of the wine-skin he is holding under his other arm. This quaint way of drinking is of extreme antiquity in India and still prevails in our days. Out of it have been evolved interesting types of drinking vessels used in the temples of Lamaism.¹

In the Indian Bacchic figures we may have before us traces of early Mediterranean influence from the era preceding the rise of the Gandhara school of art. Primarily it is Dionysos who lent his attributes to the Indian Gods of Abundance, and his spirit is still discernible in the simple reliefs that once decorated wine-jars in distant Khotan.

Minor reliefs.

Beside the larger reliefs already described, which probably decorated their respective clay vessels to the number of three — one in each space between the three handles — there is a group of smaller reliefs that in varying numbers adorned the neck portion of the vessels. They may be divided into two groups: human figures, and purely ornamental devices such as conventionalized vegetable motifs, rosettes, etc. They were universally manufactured in moulds and attached to the vessel before firing. Their execution varies in the quality of the workmanship: occasionally the figures are sharply defined and well shaped, or again they are carelessly made and have blurred outlines. They have of course suffered a great deal of change from wear, as well as from their repose for many centuries in the soil.

Fig. 10 illustrates the rolled-out decoration on the neck of a clay vessel in the Hedin collection. Its lower portion contains a frieze of 12 figures whose motifs clearly indicate that the vessel was used on festive occasions, probably for holding wine. This row consists of three harpers, two syrinx-players, two drummers and one flute-player. Two reliefs are missing, and another is too blurred and worn to be recognizable. The twelfth figure is also indistinct, but a comparison with other published material reveals the motif to consist of two pigeons kissing each other on a bunch of grapes.² Of this, Stein says that it recalls elements of Gandhara sculptures, the Ajanta frescoes and Coptic embroideries.³ That its origin is to be sought in the Hellenistic style is quite certain.

¹ Coomaraswamy-Stewart 1928/29.

² Stein 1907, vol. II, pl. XLIV (Mac. 001).

³ Cf. Foucher 1905/22, fig. 68.

The same applies, as a matter of course, to the grapes and leaves seen in the upper rows. These motifs recur in a variety of combinations on many vessels, as is evident from illustrations given here. The same decorative scheme appears on the large vessel of which a reconstruction is shown in Pl. I. Here, too, the lower portion

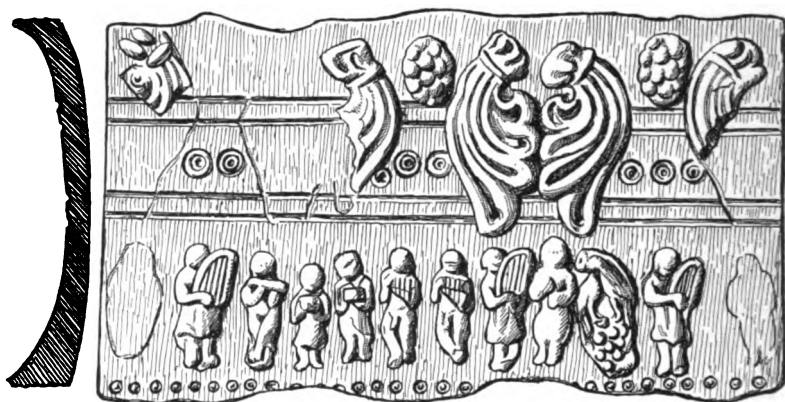


Fig. 10. (03.11.335). Relief decoration of neck of terra-cotta vessel.
Cf. Pl. III, 1. 1: 2.

of the neck is occupied by twelve small reliefs, the majority of which, however, are much worn to allow of any detailed study. It is still possible, however, to discern a motif similar to the foregoing, viz. musicians, kissing pigeons, etc. The upper portion is more richly decorated, having three relief figures, six leaves and six rosettes. The latter belong to the most cherished motifs in Yotkan ceramic art, and also recur later on objects found at Dandān-Uiliq. These rosettes — or jewels, as they are also called — are very largely met with in Indian art, e.g., on the Bharhut reliefs.¹ Among the finds from Bhulia, which Carlleyle identifies with Kapilavastu, the home of Buddha, are depicted fragments comprising jewels and leaves of the same type as is seen on the Yotkan vessels.² Unfortunately the illustrations are not distinct enough to enable me to determine their degree of correspondence.

Among appliqué ornaments attached to necks or shoulders of clay vessels are found various forms of palmettos, bunches of grapes, and leaves.³ They convey a very strong impression of being related to Hellenistic forms.

On the neck of a clay vessel contained in Högberg's collection there are three small reliefs in a good state of preservation, Fig. 11. One of them represents a dancing or floating female figure with her hands placed together above her head. From her shoulders flutter the ends of a veil. There was only room for the upper halves of the legs, but it can clearly be seen that the left is placed over

¹ Coomaraswamy 1927, pl. XII.

² Carlleyle, pl. XII.

³ Grenard, pl. VIII.

the right. An identical figure recurs in one or two of Stein's acquisitions.¹ Similar representations are frequently found in early Indian and Gandhara sculptures.² The other relief contains two figures sitting opposite to each other on lotus thrones and sharing an aureole behind their heads. This group is supported by an elephant.³ Here, too, strong Indian influence is evident.

Among other figures of this class may be especially mentioned the one shown in

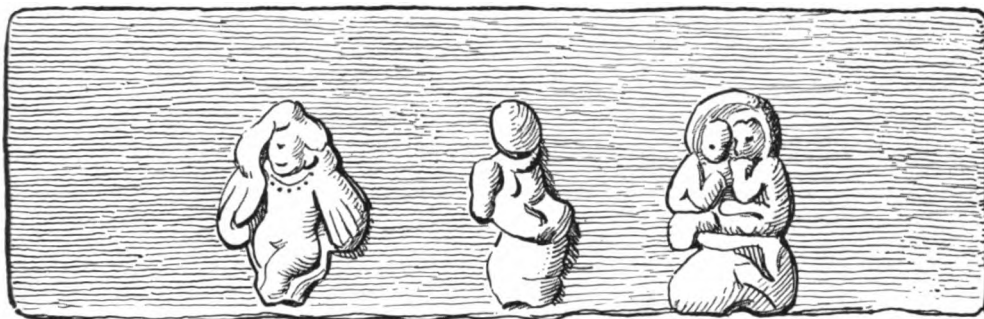


Fig. 11. (01.23.2. Högberg coll.). Relief decoration of neck of terra-cotta vessel. 1: 1.

Pl. VI, 3, representing a pair of wrestlers.⁴ In spite of the coarse workmanship, this relief produces an animated effect and vividly recalls modern Mongolian wrestling matches.

During the T'ang dynastic period this class of decoration, with its moulded thin reliefs, was popular in China for ornamenting large and tall vessels.⁵

Shoulder ornamentation.

That portion of vessels which is known as »shoulder» has, as already mentioned, offered great possibilities for ornamentation but it nevertheless appears as if there had been less variation here than on the vessels neck itself. The available material is, however, so comparatively slight and casual that it is advisable to refrain from drawing any too positive conclusions.

Of the incised decoration I have already spoken in the foregoing and pointed out its paucity of motifs. Nor does it play any particular part in three-handled vessels either. Moulded ornaments are altogether predominant and may be divided into two groups: reliefs found on the slightly concave surfaces between the handles, and the appliqué ornaments attached below the juncture of the handles.

¹ Stein 1907, vol. II, pl. XLV (Kh. 003, c).

Stein 1928, vol. III, pl. II (Badr. 033).

² Smith, V. pl. XXXII. British Museum Quarterly, vol. VII. No. 2.

³ Cf. Stein 1907, vol. II, pl. XLIV (Mac. 001). Hoernle 1902, pl. IX, No. 20.

⁴ Cf. Hoernle 1902, pl. IX, No. 20.

⁵ Cf. Hallwylska Samlingen, Grupp XLVIII, IV B. a.d.i. Stockholm 1930.

The simplest, and purely ornamentally executed, relief motifs consist of more or less strongly stylized palmettos and acanthus leaves. Here the classical origin appears beyond all question. However, not a single example of this is contained in the otherwise very comprehensive Hedin collection. I must therefore refer the reader to illustrations in Hoernle, Stein and Grenard.¹ The most commonly occurring motif appears to have been a garland of depending leaves with upturned points. Occasionally the rib of the leaf is also executed in relief, although it is more often merely indicated by incision like the upper portion of the leaf.² The upturned points of the leaves, which are placed close together, form an undulating analogy of what I should like to call the reinforcing band that marks the border between the shoulder and the lower portion of the vessel. An attempt at analyzing the development and degeneration of this motif has been made by Stein.³ These leaf ornaments are also found on the upper parts of the handles (cf. Fig. 12, Ambolts collection). That the lotus-leaf decoration on the shoulder and on the body of vessels is an Indian element is evident from a comparison of Pl. II with a couple of reliquaries from Taxila.⁴

On the other hand we find many excellent examples of larger and more space-filling reliefs in Sven Hedin's collection. A remarkable type, two examples of which are found there, is seen in Pl. XII, 2. A grotesque figure is applied to a pottery fragment, whose thickness indicates that the vessel was a large one. The head is of a model that occurs more frequently than any other, with a large mouth, deeply sunk round eyes, pointed ears, and ear-plugs. Comparison with the copious material of heads of figures will at once make it clear that this was never meant to represent a human face. In many details it more closely resembles the monkey figures. The hands, which are folded on the chest, are holding the ends of a cloth laid over its shoulders. It is not altogether impossible that these lappets in fact constituted the stems of leaf ornaments resembling those issuing from heads of the same type, although of smaller size, which are depicted by Hoernle.⁵

The lower portion of the two figures from the Hedin collection here described is broken off, but another, also fragmentary, example acquired by Stein serves to complete the figure.⁶ The figures have been seated, with their knees wide apart, just above the reinforcing rim, with their feet resting on it. The bulbous belly is naked except for a narrow loin-cloth.

Even these grotesques I consider referable to the »Dickbauch» type mentioned in the foregoing, and which has been dealt with by Scherman. They are of course not to be regarded as images or deities, but as offshoots of the same primary type

¹ Hoernle 1902, pl. IX. Stein 1928, vol. III, pl. III. Grenard pl. VIII.

² Woolley fig. 3.

³ Stein 1928, vol. III, pl. III. vol. I, p. 102.

⁴ Cf. Marshall 1920, pl. X 10 and pl. XII 12.

⁵ Hoernle 1902, pl. IX, fig. 7.

⁶ Stein 1928, vol. III, pl. I (Yo. 06).

out of which Kubera, and ultimately the Laughing Buddha, have received their forms of representation. It is also conceivable that they are evolved from the often very grotesque Yaksha atlantides that Indian art delights in representing as supporters of stupa foundations.¹

Two more reliefs in the Hedin collection of which I have found no counterparts in other collections from Yotkan are reproduced in Pl. VI, 1. They have been manu-

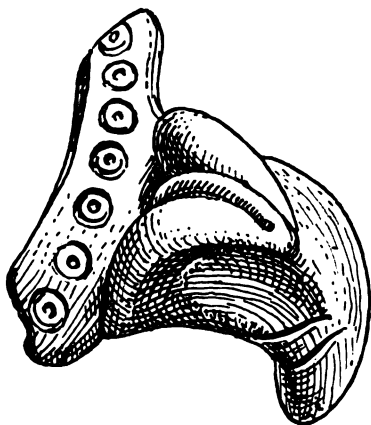


Fig. 12. (35.24. Ambolt coll.). Upper part of handle of terra-cotta vessel. 1: 1.

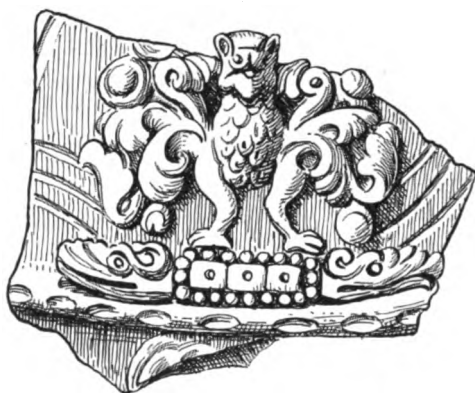


Fig. 13. Reconstruction of part of shoulder of big vessel with appliqué moulded relief representing griffin or Garuda bird. Cf. Pl. VI, 1. 2: 3.

factured in the same mould, but as in one of them the head is missing and the other lacks the foot portion, I have caused a reconstruction to be made, Fig. 13. The motif is easily recognizable: it represents the Garuda bird holding Nagas in its talons.

As will be seen, the bird is shown in direct front view. The beak is broad and parrot-like, roughly resembling the same motif as seen in the Lamaistic paintings. The plumage is distinctly defined, while the legs are powerful and issue from the bird's body from the same point as the wings. The latter have lost all trace of naturalism and have been changed into acanthus leaves.

The bird's talons rest against an ornament that without too great presumption may be interpreted as Nagas. The middle portion consists of a trisected rectangle, surrounded by beads, at each end of which is placed a crocodile's head. The motif must be regarded as very degenerate, but there cannot very well be any doubt as to its origin.

In Indian mythology Garuda, the mythical bird, dates back to remotest antiquity and legends have attributed to it a variety of qualities and functions. It is

¹ Cf. Foucher 1905/22, fig. 313—314. Marshall 1921, pl. XXII i.

the sworn enemy of the Nagas, the snakes, and is generally represented with snakes in its beaks or talons. Already prior to the rise of the Gandhara school, Garudas appeared in Indian art.¹ Coomaraswamy classes them with the ancient Indian motifs.²

From the eastern one of the famous gateways surrounding the great stupa at Sanchi, Grünwedel illustrates a relief in which among other mythological animal figures there is a typical Garuda.³ Further, on the top of the pillar erected in about 170 B.C. a Garuda was placed as a crest.⁴ From Mathura and Newal in the Ganges valley Cunningham illustrates tiles with animals and tritons whose bodies change into the same kind of acanthus leaves as those seen in Fig. 13.⁵ This also applies to the fragments of a frieze from Pailma, near Khotan, discovered by Trinkler.⁶

In Gandharan art this ancient Indian motif was given a new form. The Ganymede of Hellenism that was carried off by an eagle has been turned into a Garuda bearing away a Nagini.⁷ In the art of the Far East, especially in that of Lamaism, this motif has played an important part even into our own times.

Moulded appliqué masks.

As has been mentioned in the foregoing, and as will also be seen from Pls. I—II, moulded appliqué ornaments in the form of masks of human beings, animals or fabled creatures, play an especially prominent part in the decorative schemes of more richly ornamented clay vessels. As a rule they are attached immediately below the lower junctures of the handles, i.e. on the shoulder just above the rim marking the widest circumference of the vessel. The size of these appliqué ornaments varies according to the dimensions of the vessel, as can be verified from the portion of the vessel adhering to their back, this being always thicker behind larger specimens than behind smaller ones.

These appliqué ornaments have been recovered in large numbers, and our collections also contain a good many specimens. For the sake of clearness I have here divided them into groups according to the different types of the faces, a system of classification which, however, is bound to be somewhat arbitrary, as intermediate forms are apt to blur the boundary lines.

Human faces that have been given a truly naturalistic treatment are comparatively few, and even in these cases they possess certain conventionalized elements. In Pl. IV, 6 and Fig. 14 a is seen a plump satyr-like type which, with its wide and laughing mouth, vividly recalls sculptures and architectural details of the later

¹ Cf. Foucher 1905/22, fig. 466.

² Coomaraswamy 1927, p. 50.

³ Grünwedel 1920 (1), fig. 19.

⁴ Smith, p. 66.

⁵ Cunningham, vol. XI, pl. XVIII.

⁶ Trinkler, 1931, pl. 2, No. 3.

⁷ Foucher 1905/22, figs. 318—319.

classical era. The cheeks are full, the nose broad and fleshy, and the eyes obliquely set. The face is surrounded by a wreath of volutes of which the ears, which are almost circular, form a part. Whether this encircling motif is intended to give a stylized representation of hair and beard I must leave as an open question. This



a



b

Fig. 14 a. (03.11.143). Terra-cotta mask showing human or satyr face. 2: 3.

Fig. 14 b. (03.11.150). Terra-cotta mask. 2: 3.

type appears to have occurred only on larger clay vessels.¹ A variation of this is found in Pl. VIII, 6, where the wreath is only suggested by incised lines of semilunar shape. The round eyes are of the type that generally characterizes animal figures in Yotkan ceramics. The form of the ears is the same as in the lion representations. The motif has an appearance of degeneracy. This applies in a still higher degree to Pl. IV, 5, which illustrates a fragment of a badly executed and uneven vessel with a double row of teeth below the appliqué ornament. Pl. IV, 3, where the grotesque motif is altogether predominant, is to a still higher degree a compromise between a human being and an animal.

The appliqué ornament, Pl. VIII, 5, no doubt represents a male face with large moustaches, strongly curving superciliary ridges and a frontlet decorated with a large rosette. This type is somewhat rare, but is nevertheless found in other collections also.² The turban-like head-dress resembles that of adorning deities and Bodhisattvas in Indian art.³

Monkey faces, or, more properly speaking, something between human beings and monkeys, is what I should like to call those numerous appliqué ornaments of which examples are seen in Pl. VIII, 1, 4. In the following I shall recur to the

¹ Kiseritskij, fig. 8.

² Stein 1907, vol. II, pl. XLIII (Y. 0017). Stein 1921, vol. IV, pl. I (Yo. 0020).

³ Foucher 1905/22, figs. 364, 396, 428, 495 etc.

peculiar monkey figures that have been recovered in such large numbers at Yotkan. The reliefs here dealt with show the typical features of the monkey representations, namely the deeply furrowed forehead, the round eyes and hair parted in the middle. The fact of their having been used as appliqué ornaments below the handles of vessels is confirmed by Hoernle's illustrations,¹ but that they also occurred in other combinations may be seen from Fig. 27 and from Stein's acquisitions.²

Lion faces, with closed mouth and of remarkably inoffensive appearance, occur in numerous examples, see Pl. VIII, 2. Thick rolls of whiskers cover the mouth.

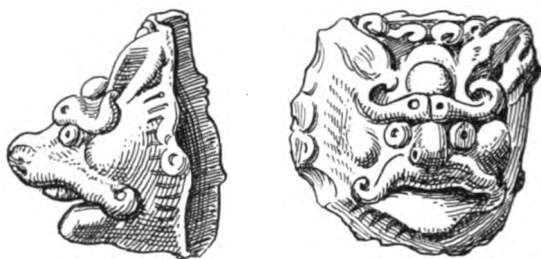


Fig. 15. (03.11.152). Terra-cotta mask. 2: 3.

The face is as a rule surrounded by a ring of circles with which the pointed ears blend. One example found in the Hedin collection, Fig. 14 b, stands apart from the foregoing on account of its fine workmanship and the light-coloured surface coating, the slip, which has been laid over the moulded relief. In the middle of the forehead is a square depression, within which a similar, smaller depression is sunk. It is not inconceivable that here was inset some specific ornament, a stone or such like. From these divergencies one is inclined to suppose that the clay vessel of which we possess this fragment was imported into Yotkan from some other locality.

Wolves' heads is what, for lack of something more appropriate, I call the type seen in Fig. 15 and Pl. VIII, 3. This kind of reliefs is always unusually high, with a strongly projecting nose, open jaws and heavy ridges above the eyes. In Stein's work these figures are provisionally described as hyenas, which of course may be equally correct.

The fact of appliqué masks' being among the most popular motifs of classical architectural ornamentation is too well known to need any emphasis here. In Indian art they also occurred, although not to any similar extent.³ As to whether the appliqué masks found on the Yotkan vessels came into being by inspiration

¹ Hoernle 1902, pl. IX, 13, 16, 17.

² Stein 1928, vol. III, pl. I (Yo 01).

³ Foucher 1905/22, fig. 81.

from architecture, or whether similar clay vessels existed in India, is a question I am unable to answer owing to lack of comparative material.

From the caves of the Bāmiyān valley architectural details are known in which appliqué masks form the principal motif.¹

Spouts.

All Yotkan collections being of the character of purchased, detached finds, it follows as a natural consequence that as regards many of the preserved decorative details we are ignorant of their employment as well as of the type of vessel to which they once belonged. No change can be expected in this state of things until excavations have been carried out under scientific direction.

In the majority of the works that have been published on this locality references are found of animal heads which are hollow so as to form tubes through which it is possible to pour liquids. There can be no doubt that these objects served as spouts, but as to the shape, etc., of the respective clay vessels we are only able to advance theories. Even among this group of objects different types are distinguishable. The most common of these is the head of some animal or other, with elongated jaws — often with a tube inserted — set on a neck, cf. Fig. 16 b. The spout as a whole is, as usual, moulded in two halves, but so as to leave a tubular cavity running along the middle. Fig. 16 c shows an interesting example of this type of object, as here is preserved not only the whole of the spout but also a fragment of the pierced wall of the vessel, which proves incontestably that the object served some practical purpose. The head is provided with a large open mouth with formidable fangs, as well as the horn-like, offset-built projection mentioned in connection with the griffins already described. Fig. 16 b belongs to the same type, which is also represented in Grenard's work.² Another feature typical of this group is that the tube is bent at an angle of roughly ninety degrees. The bird's head, Pl. XIV, 1, probably also belongs to this class of objects as the beak forms a tube set at right angles to the hollow neck. Another variant is found in the he-goat's (?) head, Fig. 16 a, which is open at the top as well.³ The idea of this arrangement is difficult to explain, but it may not be altogether inconceivable that this spout once belonged to some kind of trick-jug. Vessels of that class are known to have existed in ancient times in China.

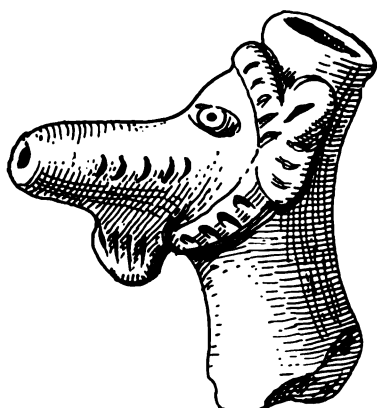
As already mentioned, no spouted vessel is so far known from Yotkan, nor even any fragments that might supply information as to shape or type. Certain hints are, however, obtainable from the miniature vessels. Kiseritskij illustrates such a one provided with spout, lid, and one handle.⁴ In shape it is tall and slender, and generally of Near Eastern type.

¹ Hackin 1933, pl. LXXXII.

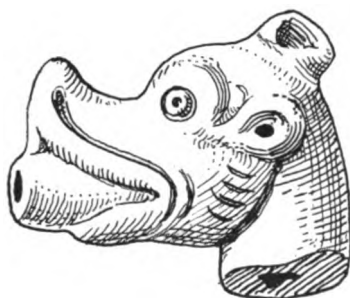
² Grenard, pl. VII.

³ Cf. Hoernle 1902, pl. XIII, 5. Cf. Crosby, p. 140.

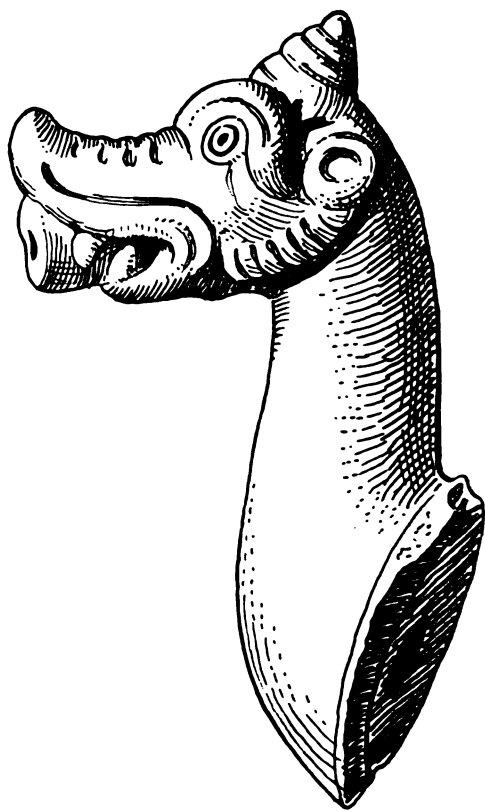
⁴ Kiseritskij, fig. 33.



a



b



c

Fig. 16 a. (03.11.314). Terra-cotta spout, head of he-goat (?). 1: 1.

Fig. 16 b. (03.11.315). Terra-cotta spout in form of griffins head with inserted tube. 1: 1.

Fig. 16 c. (03.11.313). Terra-cotta spout in form of griffins head with inserted tube. 1: 1.

Spouted earthenware jugs are also preserved in archaeological collections from the region of the Gandhara culture.¹

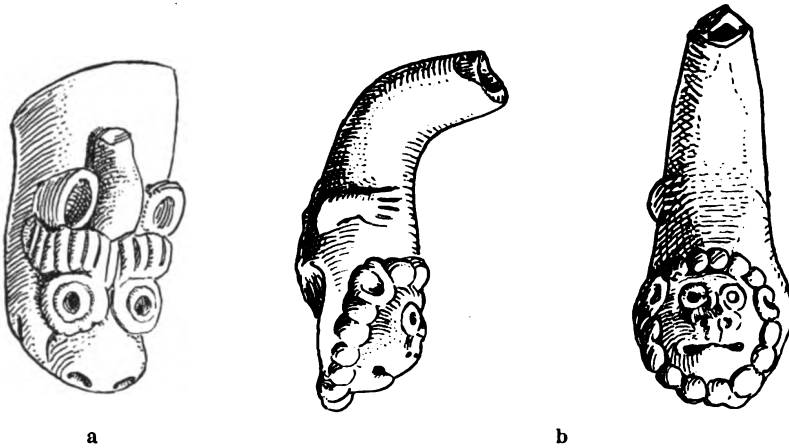
Fig. 17 b illustrates a small and gently curving spout tapering towards its mouth, which might have belonged to a tea-pot of ordinary, modern Chinese type. At its lower end is a small appliqué lion mask.² — Whether this type already existed in its developed form during that period I cannot say. I have come across no evidence on that point.

There can be no doubt that among the body of types contained in Chinese ceramics of the T'ang period there existed also vessels with handle and spout, and it is an interesting fact that during that period an especially important cultural

¹ Marshall 1920, pl. XXI, 37, XXII, 51.

² Cf. Stein 1928, vol. III, pl. I (Yo. 017).

exchange took place with the Occident. It is well known that Chinese ceramic art was influenced thereby and that late Hellenistic elements were then imported. As an example of this I may point to a jug, illustrations of which have been repeatedly published, provided with a handle in the form of an animal leaning



a

b

Fig. 17 a. (01.23.14. Högberg coll.). Terra-cotta spout with appliqué moulded head of animal. 1: 1.

Fig. 17 b. (03.11.243). Terra-cotta spout with appliqué moulded mask at base. 1: 1.

over into the mouth of the vessel, which has a spout and is also provided with a stand decorated with grotesque masks.¹ Here one feels inclined to trace, in a translated form, the identical elements that play such an important part in Khotan ceramics.

A slightly curved spout in Högberg's collection, Fig. 17 a, is decorated with an appliqué animal head, a notion not unfamiliar to Chinese art of the T'ang period.² The similarity may not be too obvious, but on the other hand we know, that, in the era referred to, China was the recipient of many impulses from the West through intercourse along the caravan roads of ancient Central Asia. Khotan was one of the most important stations on the southern route, and there can therefore be nothing unreasonable in seeing in the simple Yotkan pottery one of the stages in the progress of the pottery types towards the East, where they were subsequently recast and given a fresh and brilliant development.

Plaques with moulded reliefs.

Among fragments of pottery from Yotkan is a group which shows with peculiar clearness the connection with Indian art. In the Hedin collection it is represented by the plaque seen in Pl. VI, 5. On a perfectly plane surface are attached moulded relief details, forming an arcade, between the columns of which human figures

¹ Hobson—Hetherington, pl. XXIX, fig. 2. Hobson—Rackham—King, fig. 82.

² Cf. Hobson—Hetherington, pl. LIII. Hetherington 1922, pl. 8, fig. 3.

are worked in. The columns are of Indo-Corinthian type and support arches decorated with strings of beads. The figures, of which only one is complete, represent walking men who are carrying on the left shoulder a large jar. This they steady with the right hand raised above the head. An impression of movement, and of the heaviness of the burden, is excellently well conveyed, in spite of the plainness of execution.

The plaque is defective at the top and the sides, but its bottom edge is intact. From the back there projects, at a slightly acute angle, a broken-off prop. Until more complete finds have been made, it is impossible to determine to what use this plaque may have been put. That it did not form part of a clay vessel is perfectly certain. It is rather to be supposed that it belonged to the decorative scheme of some building, although its small size seems to argue against this. I am more inclined to think, however, that it may have pertained to a miniature stupa.

Of this type Stein has illustrated two fragments, one of which is especially interesting.¹ In this case, too, the field is partitioned by an arcade, in the inter-spaces of which figures are worked in. These represent musicians with flute and cymbals and wearing turban-like head-dresses. Below the arcade runs a balustrade, above which is stretched a rope composed of alternating plain and bead-threaded strings. Right at the top can be seen the crenellated crest of the arcade wall. All of these elements recur in almost identical form in Indian art. That this balustrade is of early Indian type I need hardly point out. It occurs in a large number of reliefs and temples of the centuries next preceding the birth of Christ, e.g. at Sanchi, Bharhut, Karli and Bedsa.² This balustrade is described by Foucher as «le plus simple et peut-être le plus foncièrement indien» of the elements contained in early Indian decorative art. Crenellated battlements of this type are also of exceedingly common occurrence.³ Taken as a whole, this relief is very closely related to the style of art that flourished in India before the rise of the Hellenistically influenced Gandhara school.

Another fragment is regarded by Stein as evidence of there having existed in Khotan the same worship of the Gautama Buddha's alms-bowl as obtained in Northern India.⁴

Hoernle, too, publishes fragments of similar friezes, one of which is decorated with crenellations and the balustrade just described.⁵

Terra-cotta figurines.

Besides clay vessels, and larger or smaller fragments of such, there are included in all Yotkan collections a multitude of clay heads, fragmentary horse and camel

¹ Stein 1921, vol. IV, pl. I (Yo. 02).

² Coomaraswamy 1927, pls. IX—XVII.

³ Coomaraswamy 1927, pl. XII, fig. 43. Foucher 1905/22, fig. 99.

⁴ Stein 1921, vol. IV, pl. I (Yo. 0039, 1.).

⁵ Hoernle 1902, pl. IX, 21—23.

figures, monkeys represented in every conceivable kind of occupation, birds etc. Typical of them all is the fact that they evidently belonged to figures in the round, that is to say that they did not serve as ornaments on clay vessels. In many — or even most — cases we are ignorant of their employment and their motifs, and are

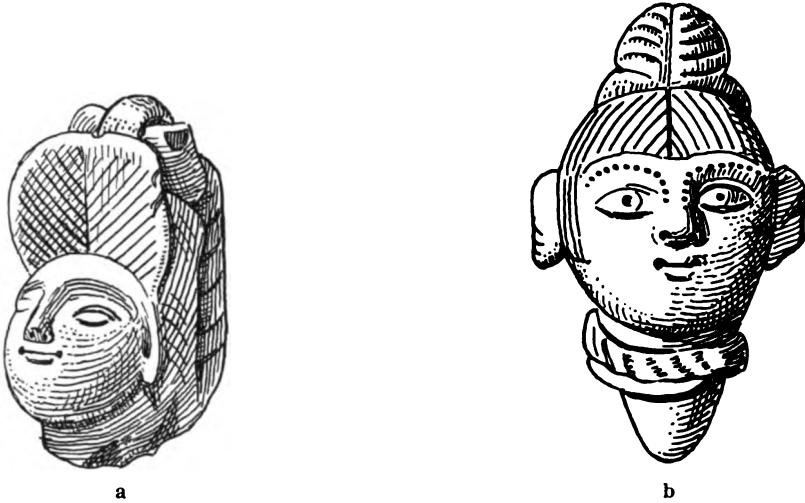


Fig. 18 a. (01.23.27. Högberg coll.). Terra-cotta head. 1: 1.

Fig. 18 b. (03.11.264). Terra-cotta head. 1: 1.

constrained to leave the solving of these questions to the future. As far as can be done I have in the following divided the material into groups in order to simplify description and study.

Human representations.

From the account already given of the decorative elements on Yotkan pottery it will be clear that figural representations were very popular. This becomes still more evident upon an examination of the extensive collections of independent figures. Even in this case we have to content ourselves with fragments, as intact figures are extremely few.

Female figures.

In most cases it is possible to determine whether these clay heads are meant to represent women or men, head-dresses or head-ornaments providing reliable guidance on that point. Both sexes are about equally represented, though it is possible that women in some degree predominate.

Facial features are as a rule modelled on the same plan, which is natural enough seeing that the heads were first pressed into a mould and then given a finish. The expression is, therefore, generally stereotype and lifeless. In relation to their length

the faces are very broad, the forehead is low, the nose is disproportionately small, and the eyes long and narrow. The mouth is accentuated by means of the corners being indicated by two deeply impressed holes, as is also frequently the case with the nostrils. The chin is weak, and the ears merely suggested, if at all visible. The eyebrows are often represented by arches formed by impressed dots set close together. The potter centred his interest upon the head-ornaments, which, so far as can be judged, must have been very complex.

One of the most common types is seen in Fig. 18 a. From the forehead rises a high and straight pad, which must have been formed over some sort of frame.



Fig. 19. (35.24. Ambolt coll.).
Terra-cotta figure representing
woman playing musical instru-
ment. 1: 1.

At the nape of the neck the hair is collected into a thick plait — occasionally tied round with a piece of ribbon — and then taken along the head to the top. Surmounting the crown is a rectangular object encircled by this plait. This is undeniably a quaint arrangement, but it no doubt had its model in real life. The Gandhara school presents a remote parallel in certain statues of Indian princes and notables, where the hair is seen piled on top of the head in a doubled-up plait.¹

Pl. IX, 7 depicts an interesting figurine which is complete but for the arms and hands. The head and its adornment is similar to the foregoing. The chest region is almost flat, but the lower part of the body has instead been carefully treated. The hips are broad, and the legs swathed in a pair of very wide and pleated trousers. Down over the hips falls a jacket with lappets that reach far down on either side, and round the waist is wound a belt with a lappet in front and six pendent tassels at the back and sides.

An uncommonly beautiful and elegant figure in Ambolt's collection, representing a woman playing some instrument, has her hair dressed in a similar way and wears on her shoulders a cape or fur tippet. On her cheeks a lock of hair hangs down in front of the ears, a feature which recurs in a large number of heads. Exceedingly characteristic of Yotkan ceramics is the type seen in Fig. 20 b.² The above described pad over the forehead is absent, but it is replaced by a diadem formed of circular plates. The plait, which is taken from the nape of the neck up to the crown of the head, is thicker, and has been detached from the head so as to resemble a small handle. The object on the top of the head is absent, but all the more prominence has been given to the arching coil of hair. Occasionally this is also decorated with circular plates, as is also the thick, upturned plait at the back. To what extent this may be a true representation of reality, or merely con-

¹ Foucher 1905/22, figs. 358, 392.

² Cf. Kiseritskij, figs. 1a, 1b.

ventionalized exaggeration, it is impossible to determine. Fig. 20 a illustrates a head of grey-black clay material, plainly made and bare of any extra adornments.

Stein has made a fortunate acquisition in a complete figure with a head of this type.¹ It represents a woman holding a cradle in front of her. She appears to be

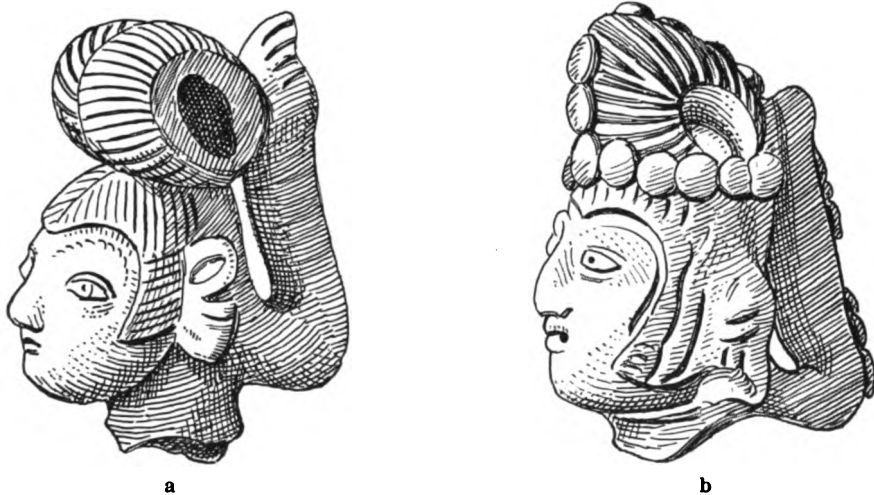


Fig. 20 a. (03.11.270). Terra-cotta head, dark grey ware. 1: 1.

Fig. 20 b. (03.11.257). Terra-cotta head with elaborate head-dress. 1: 1.

dressed in a jacket with wide and pointed sleeves, resembling the dancing-dresses worn by Lama priests. The body is cut off below the hips so as to provide an adequate standing surface. Possibly this little figurine served as a toy, or doll.

I have been unable to find elsewhere anything directly corresponding to this type of head-dress. However, the quantity of material I have available is comparatively small. It is a well known fact that Central Asiatic women, e.g. in Tibet and Outer Mongolia excel in the elaborate dressing of their hair.

A female head of a peculiar type is shown in Fig. 21 a and Pl. XI, 2. It is hollow, and was fitted to the body by means of a tubular projection. In the back of the head is a large circular aperture, which seems to suggest that it once formed a sort of spout on some earthenware vessel. Of a similar, though more richly ornamented, head Stein says: »Of special interest is the large female head (Y. 0031), which clearly suggests modelling after a well-defined local type, recognizable also in some small worshipping figures of the Dandān-Uiliq frescoes. The very oblique eyes are in curious contrast to the thoroughly 'Aryan' look of the other well-shaped features.»²

From some of the finds it is possible to trace the rather complicated process

¹ Stein 1921, vol. IV, pl. II (Yo. 2).

² Stein 1907, vol. I, p. 208.

by which they were manufactured, Pl. IX, 1 and Figs. 18 b and 21 b. The back and front halves of the head were formed separately by pressing into moulds, and were thereupon joined together. Then a peg was inserted the lower part of which reinforced the neck and continued downwards into the interior of the body. The latter also was made in two halves. The arms, which likewise had been fashioned

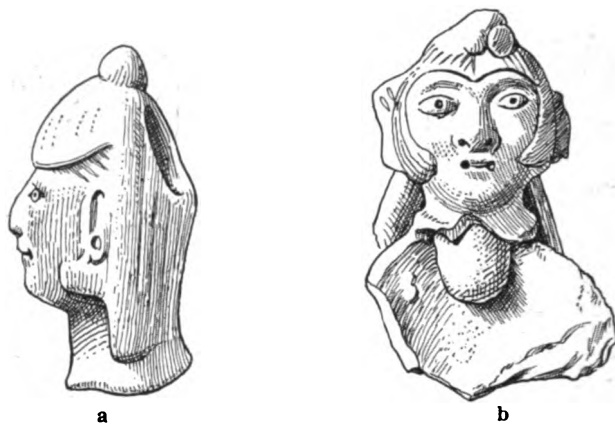


Fig. 21 a. (03.11.260). Terra-cotta head. Cf. Pl. XI, 2. 2: 3.

Fig. 21 b. (35.24. Ambolt coll.). Fragment of terra-cotta figure. 2: 3.

separately, were attached during the last stage of the process, and finally the work was finished off and smoothed, or polished. A fragment included in Ambolt's collection affords an excellent illustration of the procedure.

Male figures.

Not a single intact example of independent, earthenware male figures appears to have been recovered hitherto. Fragments, on the other hand, are very numerous, heads, in particular, being very largely represented.

In Pl. X, 8 is seen the torso of a male figure holding before him a wine-bag made from the skin of some animal.¹ Unfortunately the head is missing, and also the portion of the dress that covered the legs. The latter are now visible, but it is evident that they were originally concealed by some article of dress or else stuck into some other object serving as a stand. In its present state the figure shows that it was dressed in a sleeved jacket with the characteristic curve in its lower edge, which descends into a point on each side. Across his shoulders he wears a tippet or some other ornament, with tassels hanging down on to the shoulders, back and breast. Further, a belt encircles his waist and from it are suspended several objects the meaning of which I have so far been unable to discover. Another, and similar, treatment of the same motif, although more plain, is illustrated in Pl. X, 7, where the head

¹ Cf. Fig. 9.

is well preserved, but the left arm, the right hand and the legs are missing. Across his shoulders he wears an ornament similar to the foregoing, and on his back are seen some things resembling animals' paws. From his belt are suspended a couple of bags. His head is shaved except for the crown, and from there a plate-decorated plait hangs down the back. The head is turned slightly to one side, which of course imparts a greater effect of animation to the figure, and this is enhanced by the faint semblance — perhaps unintentional — of a smile settled on the features.

It may perhaps be the absence of head-ornaments — otherwise attractive representations — that has induced the potter to bestow more individual care on the face. In certain cases it would seem as if the heads had been modelled by hand instead of being moulded. This tends to lend greater variety to the types.

Male heads are generally given more marked features than female ones. The eyes are sunk more deeply, and occasionally the eyebrows form strong ridges. Very rarely is any opportunity neglected to emphasize the moustaches, which are often extended to meet the generally bushy beard. As a rule no head-gear is worn, and the hair is either brushed up off the forehead or else combed down, concealing it altogether. Hoernle illustrates an especially fine head of this type, a real work of art.¹ Like the female head already described (cf. Fig. 21 a) it is hollow and has a large hole in the crown. Its refined features and the soft modelling strongly recall the Gandhara school, which likewise provided its Bodhisattva figures and statues of princes with elegant moustaches.² The fragment seen in Pl. XI, 1 is also remarkable for firmness of design.

In Pl. X, 5 is reproduced a head of which only the front half remains. As in the female heads, the eyebrows are indicated by arches of impressed dots. Round the head is wound a turban, a species of head-gear which occurs in manifold variety in Indian sculpture. The circumstance that the head terminates in a tenon goes to prove that it has belonged to an independent figure.

What especially serves to give the male heads a more lifelike appearance is that the eyes are set more deeply, and that prominence has been given to the rims of the eyelids and the brows. This is clearly apparent from the type reproduced here, Pl. X, 2 and Pl. XI, 7.³ The head, which is adorned with moustaches and a beard, is set low on the shoulders. A jewel is suspended on a string round the neck. As the pate is bald, it is evidently an old man that is here represented. Each of the two examples included in the Hedin collection has a round hole in the crown of the head, communicating with the cavity in the interior of the figure.

A group that stands apart from the rest is formed by the heads illustrated in Figs. 22, a.—d. They are without unnecessary ornamentation of any kind, but are conspicuous for firmness of form. With one exception their eyes are represented by deep slits. The mouth is more naturalistically rendered without the aid of impressed

¹ Hoernle 1902, pl. XI, 1. Cf. Le Coq 1925, fig. 10.

² cf. Foucher 1905/22, figs. 393—97.

³ cf. Hoernle 1902, pl. XI, 11. Stein 1921, vol. IV, pl. III (Yo. 009 c. 3.).

dots of primitive effect. One of the heads (Fig. 22 d and Pl. XI, 3) has a strange-looking, crescent-shaped orament, placed right across the top of the head. It does not appear to me too rash to set these figures down as representatives of a specific variation of style that must either be referred to a different period, or else be regarded as originating from some other place of manufacture. Even the character

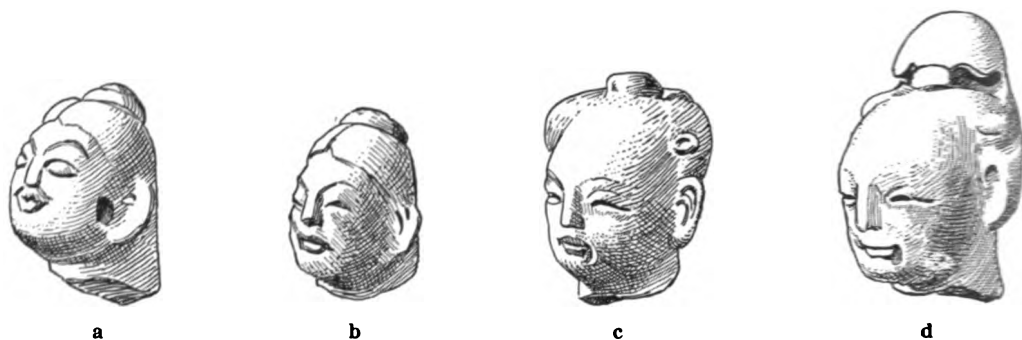


Fig. 22 a. (03.11.266). Terra-cotta head. Cf. Pl. XI, 4. 2: 3.

Fig. 22 b. (03.11.271). Terra-cotta head. Cf. Pl. XI, 6. 2: 3.

Fig. 22 c. (03.11.00). Terra-cotta head. 2: 3.

Fig. 22 d. (03.11.263). Terra-cotta head. Cf. Pl. XI, 3. 2: 3

of the material is different. They are all much worn, which may perhaps be ascribed to the materials being less durable.

In the Yotkan clay heads there is frequently a depression in the forehead just above the nose, cf. Pl. XI, 8. There can be no doubt that this served as a setting for a bead or stone of some kind, so as to form an *urna*, that is to say the protuberance that of old has been regarded in India as a sign of high intellect.¹ Representations of gods and saints in Buddhist art are almost universally provided with this strange beauty-mark. It is very possible that a good many of the hemispherical semi-precious stones and glass beads that have been recovered at Yotkan and other places in East Turkestan were originally set in the foreheads of figures representing deities. Seeing that they are rather clumsily made, these heads that are here illustrated cannot perhaps be considered as having belonged to deities, but it is not altogether impossible that they represent degenerate types, or even that they may have been mere toys. The origin of this motif must, however, be considered identical with that of the *urna* of Buddhism.

Lastly, there is the head illustrated in Pl. X, 4, which may possibly have formed part of the decorative relief ornamentation on some clay vessel.² It is of careful workmanship, and the features are well formed. The face is beardless, but parallels pertaining to Indian sculptural art testify to the masculinity of the head in

¹ cf. Grünwedel 1920 (1), p. 140. Waldschmidt, p. 16.

² cf. Stein 1921, vol. IV. pl. III (Yo. 00182).

question. The turban-like head-ornament with an erect ring in the middle is closely related to the Bodhisattva figures of the Gandhara school.¹

Of the male heads from Yotkan, Stein says, *inter alia*: »With their well-shaped 'Aryan' features, including high-bridged noses and prominently set eyes, they seem to bear out what anthropological and other evidence leads us to assume about the racial character of the old Khotan population and its nexus with the *Homo Alpinus* of the Pamir region. That the type intended must be essentially local becomes clear at once on comparing it with the conventionalized heads which the hieratic sculpture of Khotan has borrowed from Graeco-Buddhist art.»²

It hardly can be doubted that the greater part of the pottery fragments that have been recovered at Yotkan was manufactured locally, but the question arises whether the »Aryan» features were not imported from India. Correspondences on points of detail are so numerous that one is inclined to believe that divergences from the Indian types are due to a later development and to impulses from other quarters.

In most archaeological collections one comes upon objects the use of which can only be guessed at, and not a few of such are met with in Yotkan ceramics. Among this group must be counted the object seen in Pl. XII, 3. It represents a male head with well-modelled features, heavy brows and moustaches, and a long and pointed, forked chin-beard. In the centre of the forehead is seen the above-mentioned depression, recalling the *urna* of the Buddhist images of gods. The nose is strongly prognathic, this being accentuated by straight lines drawn from the corners of the eyes to the point of the nose. The forehead is deeply wrinkled. Holes pierced in the ear-lobes for ear-ornaments are indicated.

The fragment in question, which is broken off both above and below, is hollow, but it is not possible to say whether any back portion existed. Stein has acquired several fragments of this type.³ The example included in the Hedin collection is more complete than any other hitherto recovered, but even so it does not supply sufficient data for determining the mode of its employment, etc.

The explanation that most readily presents itself is, in my opinion, that these figures were used as caryatids. But it is not altogether impossible that they formed the feet of clay vessels or incense burners. It is even conceivable that they were placed as corner decorations on miniature stupas, although it must be admitted that there exists no evidence whatever in support of that supposition. In Stein's collections from Niya, points of contact with this type of Yotkan pottery are found.⁴ The correspondence does not, however, go beyond certain general points of resemblance.

¹ cf. Foucher 1905/22, fig. 359, 413 etc.

² Stein 1921, vol. I, p. 98.

³ Stein 1907, vol. II, pl. XLIV (B.001 a, C. 004, Y. 0018).

Fragments of the same kind are to be found also in the Museum für Völkerkunde, Berlin.

⁴ Stein 1907, vol. II, pl. LXX.

Stein 1921, vol. IV, pl. XXXIV.

Stein connects the type illustrated in Pl. XII, 3 with certain Gandhara statues representing Kubera, or princes or men of high rank.¹ Among other things he says of a fragment of this type that »the Scythian type of its portrait-like head is unmistakable«.

It cannot be denied that these Yotkan heads bear a close resemblance to the bearded appliqué masks of Bāmiyān, Afghanistan, which Hackin illustrates.² In spite of differences in size, material, etc., they may no doubt be dated back to the same origin.

ANIMAL FIGURES.

There are hardly any reasons for supposing the numerous fragmentary horse or camel figures to be anything else than broken toys. It is obvious that they were unattached to other objects as also that they possessed no religious character whatsoever. Just as Mongolian children have herds of wooden camels, so the offspring of the Yotkan people most probably played with clay horses and clay camels.

From Sari Dheri, a mound 18 miles north-east of Peshawar, Gordon depicts a horse figure which is evidently of a type closely related to the Yotkan finds. It is very possible, therefore, that also this detail is an indication of the close connection that existed between northern India and Khotan. Gordon dates this find in the first century A.D.³

It is common to all animal figures described below that, unless otherwise stated, they were manufactured in moulds and were generally made in longitudinal halves. After these halves had been joined together while still wet, certain details such as eyes, mane, etc., were indented by means of some pointed tool. The forelegs are as a rule made in one piece so as to form a support, and the same applies to the hind-legs. Riders, packs, etc., were separately modelled and stuck on before firing.

Horses.

The Hedin collection contains quite a number of fragments of horse figures, all very much of the same type and workmanship. There is no intact example among them, nor any specimens in which the upper portion of the rider's body is preserved.

In type, the horses thus represented appear very closely related to modern horses of Central Asia. They are low of stature, with a short neck, and appear to be of sturdy build. The mane, which is erect and clipped, is indicated by incised lines, as are also bridle and trappings. The eyes are simply impressed circles, while the ears consist of attached pieces of clay. More care has occasionally been given to the saddles, and it can be quite clearly seen that they more or less

¹ cf. Foucher 1905/22, figs. 367—368. Smith, pl. 28.

² Hackin 1931, pls. XIII, LXXXIII.

³ Gordon, pl. XIII, fig. I.

closely resembled those of the Mongols and Turks of to-day. Stein illustrates a horse with the whole of its trappings excellently reproduced.¹

The majority, at least, of these figures have carried a rider, of which, however, as already indicated, only the legs remain. Stirrups are in all cases absent, a circumstance, however, that is ascribable to their summary treatment or age.

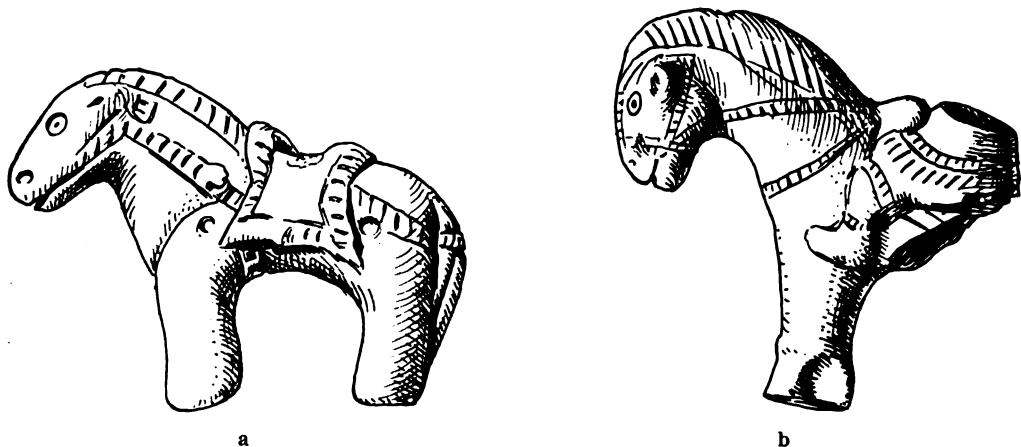


Fig. 23 a. (03.11.118). Terra-cotta horse with saddle. 1: 1.

Fig. 23 b. (03.11.124). Fragment of terra-cotta horse with rider. 1: 1.

Pl. XIII, 4 represents a horse carrying two riders, of which the rear one was evidently a woman, (cf. Pl. IX, 7). It appears that in ancient Khotan horses were exclusively used as riding animals, and never for carrying loads. At any rate, among the fairly abundant material available nothing can be found to contradict this assertion.

Illustrations of several toy horses of this type have already been published by different authors.²

Camels.

As regards plastic treatment, employment, size, etc., the camel figures form parallels to the horses described above. Notwithstanding the summary shaping of the figures, all the chief characteristics of the two-humped (Bactrian) camel have often been given excellent expression. In all its simplicity Pl. XIII, 1, for example, presents a most lifelike picture of a camel with bushy hair-growth on neck and forehead. Occasionally the animal is shown with its head bent so far backwards that its face is almost horizontal, a posture recalling the habit, or vice, of certain camels of jerking their heads back even to the front hump.³

¹ Stein 1907, vol. II, pl. XLVI (Y. 009 c).

² Hoernle 1902, pl. X. Stein 1921, vol. IV, pl. I. Stein 1928, vol. III, pl. III. Kiseritsklj, figs. 14—15.

³ Cf. Stein 1921, vol. IV, pl. II (Yo. 008 c).

Among this class of toys both riding and pack camels are represented. Pl. XIII, 1 reproduces a monkey as rider, and Stein has a fragmentary figure of this class.¹ I shall revert to the monkey figures in another connection. Frequently the loads of the pack-camels are distinctly reproduced. There is, for example, in the Hedin

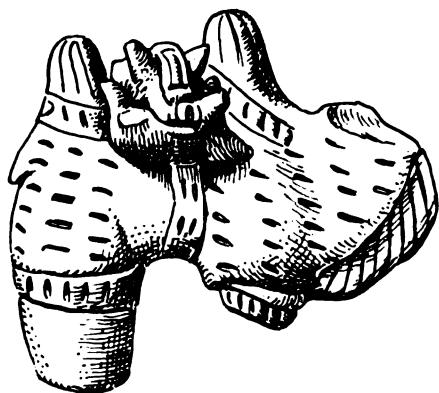
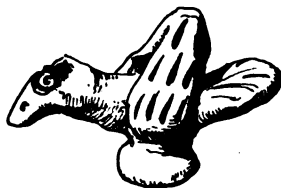


Fig. 24. (03.11.130). Fragment of terra-cotta Bactrian camel loaded with bags. 1: 1.



a



b

Fig. 25 a. (03.11.320). Miniature terra-cotta bird. 2: 3.
Fig. 25 b. (03.11.319). Miniature terra-cotta bird. 2: 3.

collection one animal with three wine-skins or water-bags tied on its back. One of these rests between the humps, and the other two are secured by a rope taken round the animal's belly, Fig. 24.² Headstall, reins, or other details of that kind are never indicated.

Pl. XIII, 3 is nothing but one half of a camel figure, which has presumably burst in the firing,

Birds.

Among Yotkan antiquities are included a good many miniature figures; such representing birds are particularly frequent, Pl. XVII, 12—15. Figs. 25 a.—b. Many of these are provided with a small foot-plate to be able to stand upright. Others are pierced for threading on a string. In the latter case they may be supposed to have adorned some sort of plain necklace.

The birds are variously represented, some perched in a restful pose with their wings folded, others evidently in the act of flying.

Miniature birds are numerous also in other collections.³

¹ Stein 1928, vol. III, pl. III (Yo. 065).

² cf. Tallgren 1919, fig. 9.

³ Stein 1907, pls. XLV, XLVI. Hoernle 1899, pl. XIX. Hoernle 1902, pl. VII. Catalogue of Ryojun Museum, pl. LXXI.

Diverse other animals.

Besides the above-mentioned groups, numerous examples of which are contained in the collections, the Yotkan ceramic fauna includes certain rare species of animals.

Pl. XIV, 5 illustrates a representation — unfortunately only fragmentary — of a fish on the back of which a snake (?) displays its sinuous body, while a second snake rears its head against the dorsal fin. The tail of the fish is broken off, but it would seem to have had an upward bend. The figure is hollow, and made in two halves. Its motif and employment I am unable to explain. The object in question hardly impresses one as having the character of a toy. I am more inclined to believe that it formed part of some large group. Buddhist legends contain numerous examples of aquatic monsters, such as Nagas, which play an extremely important part. Monsters more or less resembling crocodiles also constitute an important element in Indian architectural decoration.¹

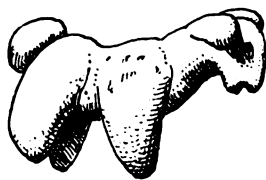


Fig. 26. (03.11.123). Miniature terra-cotta dog. 1: 1.

Another animal representation of less common occurrence is seen in Pl. XIV, 3, which illustrates an *argali* (Bighorn sheep) with its four legs placed closely together, preparing to leap. Similar figures are preserved in the collections in Helsingfors and Berlin.² It cannot be denied that this type of figure bears a general resemblance to the Ordos bronzes.

The rat, Pl. XVII, 11, whose head is naturalistic, while its body has been formed into the shape of a ring, probably to serve as the handle of a clay vessel, is another rare type.³ This may also be said of the pig, Pl. XIV, 2, which conceivably has formed the handle of some large vessel.⁴

Monkey figures.

Among pottery finds from Khotan representations of monkeys occupy a very prominent place on account of their abundance and their clever as well as varied treatment. As a rule they are of inconsiderable size, being frequently actual miniatures, but the motifs are so diversified and remarkable as fully to justify the special attention that has been paid to these figures.

The illustrations reproduced in this work serve better than lengthy explanations to elucidate the variegated character of these monkey figurines. Many of them are so small that they are best studied with the aid of a magnifying glass. Very frequently they are pierced, from which it may be inferred that they were worn as ornaments, or perhaps even as amulets. The most remarkable thing about them is that they, so to speak, represent monkeys in human occupations, such

¹ cf. Vogel.

² Tallgren 1919, fig. 12.

³ Hoernle 1902, pl. XIII. Cf. Stein 1907, pl. XLIII (Y. 0028).

⁴ Stein 1921, vol. IV, pl. III (Yo. 0064).

as riding, playing on musical instruments, rocking a child's cradle etc. Obscene and phallic representations are especially numerous.

So far as I have hitherto been able to ascertain, monkey figures constitute an element typical of Khotan. Their not having to any appreciable extent been found elsewhere than within the limits of the Khotan oasis may, however, be accounted for by the fact that we know of no other locality offering such favourable conditions for the preservation of miniature figures of this kind.

Contrary to the usual practice otherwise, the monkeys as a rule appear to have been modelled independently, without recourse to moulds. This has naturally tended to increased vivacity and variety in types and expression. Pl. XV, 5 forms an exception. Here the original consists of the front half of a monkey figure which has probably been manufactured in two moulds.

The obvious question arises of the employment of these figures, and the conceptions that have given rise to their creation. I must confess that I have been unable to find any satisfactory explanation. Their having been used as toys is out of the question, among other things because of the obscene motives that so frequently recur. Besides, many of them are so small that they must have been carried, or kept, threaded on a string. Perhaps Stein has hit upon the true explanation when he says: »The humour of the Khotanese public was manifestly pleased to see its prominent failings caricatured under the guise of these monkey figurines; for this clearly is the explanation of the manifold representations of monkeys playing on musical instruments and for the still more numerous ithyphallic figures and pairs in amorous embrace».¹ Even if this may partly be accepted as an explanation, it does not appear to me sufficient to explain their abundant numbers and exuberant variety.

As an example of the strange conceptions that may lie at the back of representations of a similar kind, I may point out that, at any rate in the interior of northern China, it is a common practice to employ painted or carved representations of the coitus act as a sort of amulet against evil influences and demons.² It is said to be no uncommon thing to place uppermost in a money box a picture of this kind. Further I may recall the somewhat surprising ancient custom of presenting bridal couples with coins bearing in relief representations of different coitus postures. There also exist certain kinds of aprons painted or embroidered with representations of couples engaged in coition. These aprons are said to have formed part of the bride's underclothing.

Of some of these monkey figures there is in modern China a parallel showing how miniatures of this kind may be employed. At the moon festival on the 15th of the 8th month, in every street in Peking are sold toys representing the moon hare in all possible human, and even strange, shapes. Thus he is represented as the Buddha, or a Bodhisattva riding on a tiger, or as a Taoistic god, an artisan,

¹ Stein 1921, vol. I, p. 99.

² Cf. Waley 1932.

a street-merchant, etc. A frequently occurring toy, too, is a mountain on the peaks of which are placed miniature animals, even including monkeys. There can be no doubt indeed that the monkey gained its importance in Chinese folklore through Buddhism. I need only point to Sun Wu Kung, in the legend Hsi Yü Chi, who still remains an exceedingly popular figure. It is quite conceivable that some of the small Yotkan monkey figurines formed part of similar fantastic toy mountains or landscapes.

The monkey motif, however, is anciently established in art. Hoernle points out the connection existing between the music-making monkeys and early forms of Greek satyrs and Pan representations, which also appear in ithyphallic postures.¹ He says, *inter alia*: »It may be noted, also, that in the Atharva Veda the musical Gandharvas sometimes appear in the form of monkeys, and thus are clearly related to the Greek Satyrs and Pans». That monkey representations occurred in still earlier periods is proved by certain finds from Susa.²

Monkey figures are found already in the earliest Indian sculptures that have been preserved, e.g. in the famous reliefs of Bharhut.³ Monkeys play an important part in Indian mythology and folklore. It will be sufficient here to mention Hanuman, in the Ramayana legend.⁴ It is easy to imagine that Indian pieces of folklore in which monkeys occupy a prominent place may have penetrated into Khotan, and thence spread farther eastwards. It may well be supposed that the monkey Sun Wu Kung — one of the leading characters in the popular legend of Hsüan Tsang's pilgrimage to India for the purpose of fetching the sacred Buddhist writings — had its origin in the motif of popular fables. In its recorded form this work is supposed to date from the period of the Mongol dynasty, although no doubt founded upon traditions of an earlier date.

Monkeys are also included in the rich store of Buddhistic legends, and fabled motif of this type are known from temple paintings in caves in northern East Turkestan.

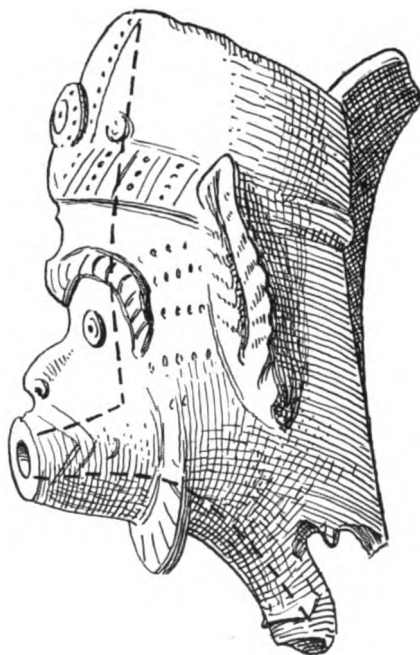


Fig. 27.(03.11.293). Terra-cotta spout in form of monkey head. Cf. Pl. XII, 4. 1: 1.

¹ Hoernle 1902, p. 49.

² Contenau vol. I, fig. 276.

³ Smith figs. 41—42.

⁴ cf. Ball, pp. 117—124.

From Ming-Ui in the neighbourhood of Kucha, Grünwedel illustrates a representation of the legend of the lion that had promised to take charge of a monkey's young, but fell asleep and thus allowed them to be carried off by an eagle.¹

From Khotan, Indian monkey motifs in art were disseminated towards the east and north-east. In The Museum of Far Eastern Antiquities, Stockholm, is preserved a T'ang camel with a monkey for a rider,² that is to say, the same motif as recurs among the Yotkan toy figurines.³ A cognate figure is illustrated by Rücker-Embden.⁴ In the same Museum there is a jade ornament representing a horse with two small monkeys on his back (Inv. No. K. 11000:352).

Among »Scythian» bronzes also we find mounted monkeys, and their origin is no doubt traceable to the Yotkan figurines or others of their kind. Salmony dates them on unconvincing evidence at a very late period, namely the second millennium after Christ.⁵

DISCOVERY OF THE RUINED CITY OF DANDAN-ÜILIQ.

During his stay at Khotan, Dr. Hedin also collected information concerning the desert tracts he next planned to visit, and among other things heard of the existence of archaeological remains. On that subject his diary for January 7. 1896, contains the following: »In the evening there called upon us a man from Islamabad, who was especially well acquainted with the desert that lies between Khotan- and Keriya-darya. He was an old man, and had travelled three times between those rivers. He told us that the sand to the west of Khotan-darya was the worst in the whole country, but considerably higher between Khotan- and Keriya-darya. From Islamabad he had walked for seven days NE to Keriya-darya, and on the way he had — three days' march from Islamabad — come upon the ruins of an ancient town consisting of a great many houses mostly filled with, and buried in, sand, and built of *qamish* (wattle of reeds) and wooden slats. Many of them carried on their walls *surat* (paintings) of Chinese character, and there were also human bodies, some of which were still covered in clothing or shrouds, the women having on them armlets and necklaces of bronze. There were also fragments of pottery and of large vessels. On the bed of the Keriya river he had then travelled 'down-stream' for one day, and then again struck across the desert, in five days arriving at Buksem, when half-way passing an ancient site containing about seventy houses.»

This report, and others in a similar vein, moved Dr. Hedin to try to find and map out the positions of these hitherto unknown ruined sites. His plan was to

¹ Grünwedel 1912, fig. 44, p. 23.

² cf. Sirén 1930, pl. 100 A.

³ cf. Fig. XIII, 1 and Stein 1928, vol. III, pl. III (Yo. 065).

⁴ Rücker-Embden, pl. XI.

⁵ Salmony, pl. XXXV.

traverse the desert between the Khotan and Keriya rivers, and then to follow the bed of the latter southwards and back to the town of Keriya. This adventurous journey, the course of which turned out entirely different, is described in detail by Dr. Hedin himself in his work »Through Asia», wherefore only the archaeological discoveries that fell under the first section of the journey will be dealt with here. On the 14th of January he left Khotan with a small caravan consisting of four men, three camels and two donkeys. The march on the first few days followed the Yurung-kash in a northerly direction. His diary contains the following note:

»Wednesday, Jan. 15th (at Tarashillik Langar, 2 days N. of Khotan). The ancient site discovered by Ahmad lies six days east of Kara-dung (between Alasar-tagh and Buksem); he had gone there with his sons and was confident of finding his way there again; there the sand would be deep and making for heavy going, still there is some *yulghun* (tamarisks); fragments of brass vessels and knives, and also a coin were the only things he had collected. Further, there were several corpses in seated postures within the houses, which appeared to be between 20 and 30 in number, here and there peeping up out of the covering sand; they were structures of *toghraq* (wild poplar) material. There were no terra-cotta objects, Buddha figures, or precious stones. (Borazan was probably an ancient temple site or a centre of terra-cotta manufacture). The second town lies three days' journey from Tavek-kel in the direction of Keriya-darya, and there the houses are built of adobe with wattles or the like, and hard clay; many of them have fallen down, others are standing partly erect, with *surat* (paintings) on the walls, and carvings and ornamentation on the wooden beams of the eaves. The paintings are said to be in red and black, but whether they represented human beings or not, I could not learn. Ahmad says that the region between Khotan- and Keriya-darya is identical with the tract known as Takla-makan, and that the desert between Yarkand-darya and Khotan-darya has no name. This piece of information, which I had already heard at another place, is interesting, seeing that it was precisely the region east of Khotan-darya that the ancient Tokharians occupied.»

The little village of Tavek-kel was the last outpost of the settled region, and there the caravan halted a couple of days in order to rest the animals and to make the final preparations for the crossing of the desert. Here, too, the people talked of ancient cities buried in the desert:

Wednesday, Jan. 17. (In camp at Tavek-kel).

»A man had travelled east from here, and after six days' journey come upon an ancient town; he only brought back a copper spoon he had found there. The Bek, Tokhta Bek, tells me that in Tavek-kel there are at least twenty men that have discovered ancient towns east of here. From their descriptions it is easily understood that they are referring to several different ancient sites, and that the whole region between the two rivers was formerly abundantly dotted with villages. It may be that they had actually discovered another such region as that east of Ilchi, where hundreds of villages lie scattered, and that in the neighbourhood

there is to be found a large city with a bazar, etc. Kara-dung, mentioned above, lies five days east of Khotan-darya and is said to consist of an immense dune surmounted by huge, black *yulghun*. To that place nine men went six days ago. More remarkable finds are obtained there than at Tavek-kel. Ahmad Mergen gave me a couple of carved stones, one with a seated lion. *Qash-tash* (jade stones) are frequently found there, and also Chinese copper coins with a large square hole in the centre. There are many corpses in the houses — in a sitting position, surprised by the sand. It is said that this death-dealing sand was not brought along by a *qara-buran* (black storm) but that it had descended like a sudden waterfall from the sky, so that the inhabitants had not even time to rush out of their houses before being suffocated. Both at that place and at Tavek-kel there had been found corpses with Chinese plaits of hair and in clothing that fell to rags. At Tavek-kel the houses are ornamented with floral motives. At Kara-dung are found red and black vessels and *safil* (walls). Of such things they took away nothing, as they considered them valueless, and instead wanted gold or silver. Ahmad considered Kara-dung as being far more profitable to explore than Tavek-kel, and I am much tempted to go there directly but think, however, it is better to take things in their proper order. It is said that many goldseekers have perished. As an example, four men had gone to Kara-dung some years ago, and on a high dune they had erected a *nishan* (way-sign) whereupon they set out in different directions after having agreed to meet again at the *nishan* in the evening. Two of them did so, but the others did not turn up. Their tracks were followed, but some distance away they had been obliterated, from which could be concluded that the men had been surprised by a local *buran* (storm) and thus unable to find their own tracks again or the *nishan* with the supplies there deposited.»

On the same day there is a note alongside of a drawing:

»Instrument used by shoemakers for stroking down and polishing leather, found at the ruins. The handle is of wood, the lower portion of black stone«. Cf. Fig. 32 a.

On January 18. Dr. Hedin left Tavek-kel and struck out due east with his small caravan. By degrees the vegetation ceased almost altogether, and the dunes rose higher and higher. Now and then, however, traces of human habitations were found, of which the diary bears witness:

Wednesday, January 22nd. (Camp V).

»On a dry clay ridge we made a rather remarkable find, namely a fragment of a red earthenware pot with a projection for placing it in a ring or iron stand over the fire, and its was still soot-blackened. This shows that people have lived at this place.« Cf. Fig. 32 b.

Thursday, Jan. 23. (Camp VI).

»At the *toghraq* where we fed the camels yesterday, and found a potsherd. I now hear that the ancient city of *Dan-kanaste* (a fancy name, probably) was situated.« — — — — —

»Our guides had told us that we had steered too much southwards. They also

knew that in order to make Eski Shahr it was necessary to pass above the above-mentioned *kötek* (dead dry trees) at the eastern edge of which the ruin would be found. They therefore struck off northwards and were soon out of sight. Shortly after noon Yakub Shah returned with an intact, one-handled clay jug and told me he had found the place. — — —



Fig. 28. Ruins of House a. Sketch by Dr. Sven Hedin 1896.

S. H.

— — — — Ahmad Mergen and Kerim Jan took one of the camels and went out to collect firewood. — — — Among the firewood were several pieces of timber that had formed parts of some house construction. Thus there were several with square holes and marks from carpentering. — — — —

At the point where we changed our course northwards we found in several places red fragments of fired pottery. — — — The above mentioned vessel was spherical, thus differing somewhat from those nowadays manufactured in Khotan, the latter being oblong. In the main, however, the shape is the same.» Cf. Fig. 32 c.

The camp just referred to was situated close to the ruined site that was being sought. On the following day it was subjected to a hurried exploration, resulting among other things in the collection, a detailed description of which will be given below. The discovery of this town is of such great importance in studying the early history of East Turkestan that Dr. Hedin's note made on the spot may appropriately be cited here at length.

Friday, Jan. 24. (Ride to the ruins).

»Examined four houses. Of the structures only wooden posts project above the sand. These timbers are greyish-white and full of cracks; they are light, brittle and porous. They are tapering upwards, where they are most eroded by the wind,

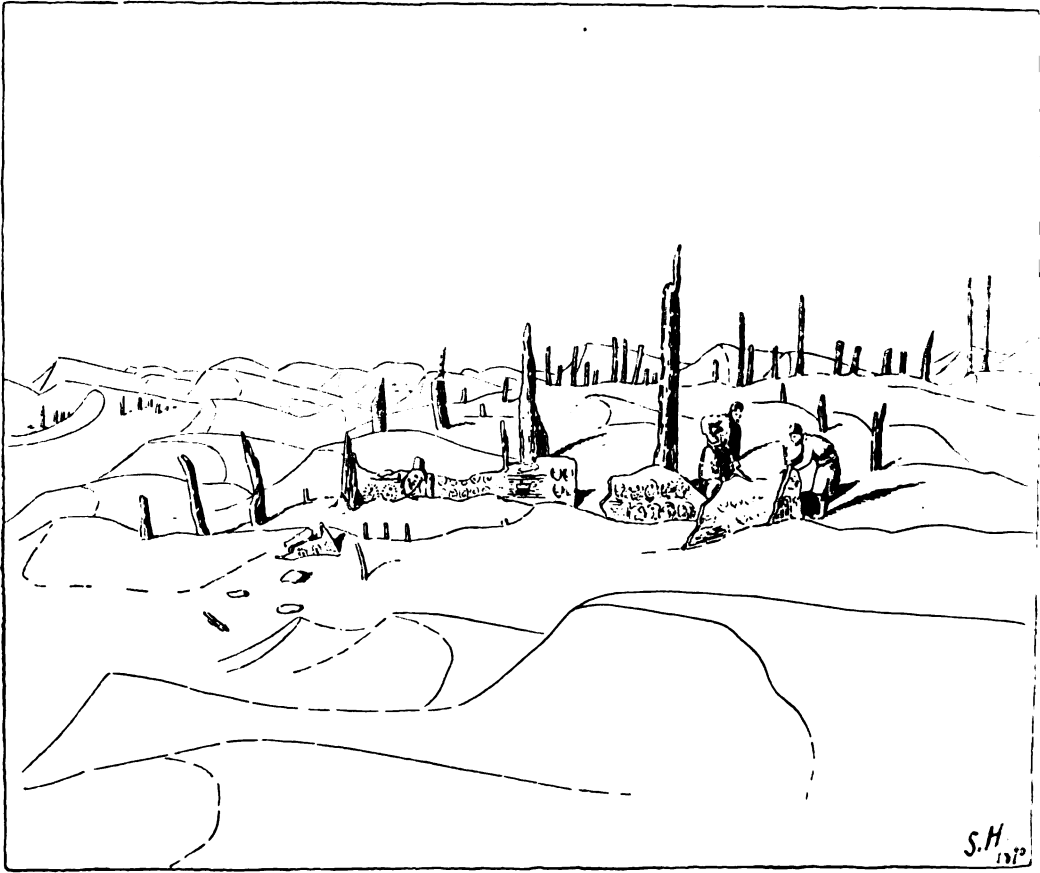


Fig. 29. Ruins of House *b*. Sketch by Dr. Sven Hedin 1896.

cf. Fig. 28 and Fig. 32 e. Between these vertical *toghraq* posts can be seen traces of the walls, the material of which consisted of *qamish* and clay, coarse and strong *qamish* lashed together and secured to slats, forming a groundwork over which clay (mixed with straw) is daubed and plastered. The houses are small, apparently having contained only two or three quite small rooms. Here excavation is, however, made exceedingly difficult as the sand keeps pouring down again, like water, into the opened pit. A *buran* would clear the place more effectively.

House *b* was of greater interest, cf. Fig. 29 and Fig. 32 f. Here the posts formed two squares, one inside the other, possibly indicating a pillar-supported balcony running round the house. Here are also traceable four distinct quadrangles on the edge of a *sai* (gravel-field), high above the surrounding ground so as to give an uninterrupted view in all directions. The first house, with a large post in its centre, seems to have been a Buddha temple. The plaster coatings on both inner and outer sides of the walls were covered with paintings in red and black lines

on a yellow ground, mostly representing women sitting down in prayer, and with hair-dresses of a style resembling that of Chinese women, but their eyebrows meet, and in the forehead they have a circular ring similar to that still worn by the Hindoos. Flowers are of common occurrence. Somewhat strange is a man, offering something on a dish, who is in all certainty not meant to represent a Chinese but an Aryan. These paintings occurred on the lower portions of the walls, next to the ground, and only fragments of them could be fished up. Being applied on the plaster, the whole substance is, however, so fragile that it must be handled with extreme care lest it be irretrievably spoiled. The paint drops off at a touch, and, transportation of a piece of wall scenery of this kind being practically impossible, I contended myself with making sketches. My servants said that this house had been a *bud-khane*, i.e. idol temple, which is not improbable in view of its elevated and dominant position and the worshipping figures. In one of these pictures, which covered the full length of the walls, and where executed with great skill, dogs were also depicted. Some pictures of women are excellently well done, cf. Fig. 30. In all directions vertical posts, representing hundreds of houses, are seen sticking out of the sand. The ground is uneven, and it is chiefly on terraces that houses are found. At one of these terraces my men were able to collect *qamish* in such a good state of preservation that the camels ate it with avidity. At its foot there was a great deal of *sai* (gravel) and there also lay a well preserved millstone. It was said that higher up in the south traces could be seen of a fairly wide *östäng*; whether this emanated from Khotan-darya or Keriya-darya my informant could not say for certain. In the temple building he picked up a piece of crumpled paper carrying some written characters. There was also found a round, turned object of unknown employment, as well as Chinese copper coins with a circular hole in the centre.

At House *c* — in the sand that filled its interior — we found a number of reliefs in plaster of Paris, representing women standing on pedestals, Buddha images, friezes, garlands, women holding garlands, etc., all of these things no doubt having belonged to a richly decorated wall. On many of these figures, from among which we made a selection, the paint still remained. Even these showed very fine workmanship. Here the likeness of Buddha was unmistakable. Lastly, at House *d*, which was quite small, there was also a very solidly constructed fireplace, facing west. This house had evidently possessed *bala-khane*, a balcony, if one may judge from square marks at the top ends of its wall-posts. Several other houses were provided with balconies. At the Buddha temple was recovered a human foot in plaster of Paris, probably from some Buddha image. Fragments of red pottery were scattered about. The upright posts define the shape and size of houses and rooms as distinctly as do the columns of Persepolis. From the relative positions of the houses it is, however, impossible to form any conclusions as to the lay out of streets or the existence of any bazar. There is no stone-built house, nor any of adobe like those of Khan-uj. It is probable that the houses that

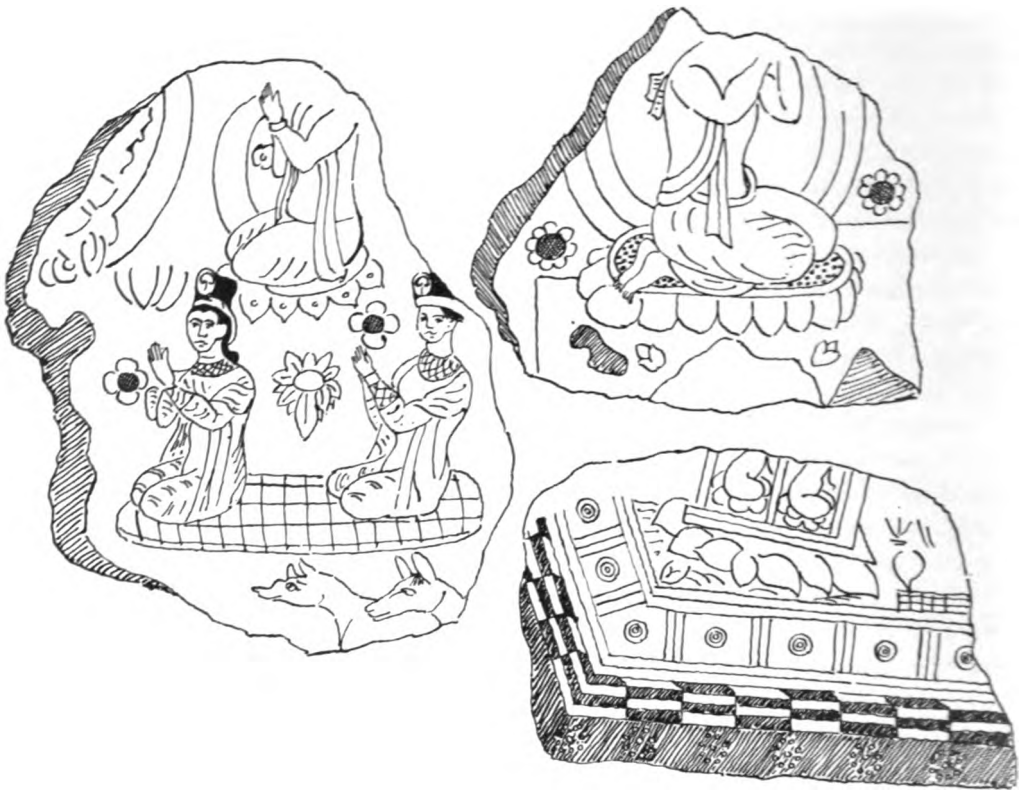


Fig. 30. Mural paintings in House b. Sketches by Dr. Sven Hedin 1896.

so abundantly are peeping out of the sand only constitute suburbs of a town whose major portion is already covered over by the dunes, which occasionally allow of a house being laid bare here and there. One or two long corpses of *terek* — dead dry trunks of tall slender poplars — still lay extended on the sand, and here and there stood decayed stumps of *shaftalu* (peach-trees) showing that they had been planted in avenues or arranged in rows in some orchard. The discovery of a silkworm cocoon indicated that sericulture was once carried on at this place. No human corpses or bones, nor any *guristan* (cemetery). From this my attendants concluded, probably correctly, that the inhabitants had in time been warned of the approach of the sand, and thus been able to retreat to other tracts. In further support of their theory they argued that if this were not so, one ought to be able to discover even more valuable articles, or mats, *chapan* (mantles) and the like, all being property which they thought the inhabitants had time to carry away with them on making

their exodus, when they probably trekked southwards. At House *d* was found a carved cornice, and some turned knobs which had probably crowned posts, besides which there were many specimens of roof-beam joints.

Then there arises the question as to what period this town dates from, and at what date it was abandoned. It is certain that it was never occupied by any Turki tribes, nor by Mohammedans, as these were not acquainted with cultured plaster of Paris ornamentation, and still less with Buddha. One is therefore safe in dating it to an era earlier than the influx of Islam. The figures are most nearly suggestive of Hindostan, in a lesser degree, if at all, of China. They are comparable to known productions of Indian art. That the era of its occupation lies very far back in time may be inferred from the fact that the ruins are situated right in the midst of the most turbulent sand area, and that the drift-sand since then has had time to pile up into dunes up to a height of ten metres at the ruined site itself. That the wooden remains and the reeds are found in such a state of preservation that the former constitutes a most excellent fuel and the latter are eagerly devoured by camels must be due to the power of the sand of protecting organic matters. All dunes at this place are orientated west or south, which proves the sand to have swept in from the east or north. Half-an-hour's distance from the dunes there are, however, a couple of live tamarisks, and beside them we found water of pure freshness.»

On December 18th, 1900, Sir Aurel Stein arrived at the above-described ruined site, the name of which he records as Dandān-Uiliq (»the houses with ivory«). For the space of a couple of weeks he carried out here with extreme care, with the assistance of a number of labourers, the excavation of numerous houses, which yielded rich finds, and he also made a map of the area (see Stein, 1907, II, Pl. XXIV). In the exhaustive treatise in which the collected material is described, Stein, in collaboration with several specialists, gives a detailed account of the history of the locality.

The central section of the ruined site has an extension of about $1\frac{1}{2}$ mile from N. to S., and a width of $\frac{3}{4}$ mile. It is entirely covered with drift-sand, in the dunes of which are hidden the remains of houses, except the wall posts already mentioned by Dr. Hedin. In his excavations Stein found inside the houses very remarkable objects: fragments of images of deities, votive tablets painted on flat pieces of wood, coins, manuscripts, etc. From these finds it has been possible to fix the date when the town was abandoned at the years immediately subsequent to A.D. 790. Stein also points out the probability of the final devastation having taken place in connection with the conquest of the whole of East Turkestan by the Tibetans in 791.

How long the town existed in its occupied state it is, on the other hand, impossible to say, but it is probable that its history covered several hundred years. In view of the perishability of the materials Stein considers that the finds that have been made must date from a relatively short period preceding the destruction of the town. To this may be objected that the objects in question have nevertheless survived both the obliteration of the town and at least eleven hundred years of desert sand-storms.

It does not appear possible with any certainty to identify on Stein's map the ruins that Hedin visited and cursorily described in his diary. It is probable, however, that his House *c* is identical with Stein's Ruin D I. The finds show perfect correspondence. For the rest, the description is of such a general character that it affords no data that can serve as a check. Seeing that Stein probably examined only part of the ruins one cannot be certain that the two explorers are always referring to the same house-remains.

To judge from the cursory description of House *b* it looks as if its decoration corresponded to Stein's discoveries in the ruin he indicates by D II. What lends colour to this supposition is Dr. Hedin's reference to dogs, of which, however, he only saw the heads, Fig. 30. Stein excavated the ruin completely and found representations of rows of men riding on camels or horses. Each of the men held a bowl in his right hand. It is probably the upper part of the body of such a rider that Dr. Hedin saw and sketched.¹

SVEN HEDIN'S COLLECTION FROM DANDĀN-ULIQ.

In the above-cited diary it is mentioned that in House *c* were discovered divers reliefs in plaster of Paris, and the whole of this little collection appears to originate from this one place. These objects are without exception fragments of larger decorations, as to the character of which we are unable to draw any definite conclusions. It is probable that in part they have formed the background of larger decorative figures. Fragments of these latter have been revealed in various temple ruins in the town in the course of Stein's excavations.

The most notable group consists of a series of standing Buddha images, all of exactly the same type and perhaps originating from the same mould. The latter supposition cannot however be definitely established on account of a certain degree of finishing work. Each figure is standing on a small console representing lotus leaves. The head is slightly inclined forward so that the circular aureole at its back is free of the wall, cf. Pl. XVIII, 1—2. The right hand is raised to the breast with the palm turned outwards in *abhaya-mudrā* (= »fear not»). The left arm hangs down the side. The body is draped in a mantle softly falling in a multitude

¹ Hedin 1898.

of folds, and below it can be seen a glimpse of the undergarment. Eyebrows and eyelashes are indicated by fine black lines, and the gaze is directed upwards. Wing-tips are distinctly seen rising from the shoulders.

The standing Buddha figurines contained in Dr. Hedin's collection evidently originate from two groups, or from the background of two different, larger, statues. Variety has been effected by painting the garb in different colours. One of them is distinguished by a russet mantle and green undergarment, while the other has a deep-red mantle and undergarment of a lighter russet colour.

As to how these figures were disposed there need be no doubt. One of Dr. Hedin's fragments has still attached to it a fair-sized portion of the blue wall that formed its background, Pl. XVIII, 5. Stein has made a lucky find of two figures with the connecting wall-portion still adhering, as is also the moulded border that framed the group.¹

As already pointed out by Dr. Hedin, these figures show a striking relationship to Gandharan art. They are coarsely made, and apparently mass products, but nevertheless retain in a general way the conventionalized features of the Hellenistically influenced religious sculpture of northern India.²

In Ambolt's collection from Karakir there are similar reliefs representing the erect-standing Buddha with the right hand raised in *abhaya-mudrā*, which from their more refined workmanship present a still closer correspondence with their Gandharan models.

The Hedin collection also contains ten fragments of the borders that have defined the aureoles set behind the larger figures. The decorative motifs are all of a severely classic-Hellenistic style and essentially consist of leaves and grapes. Stein shows exactly similar fragments found in D I.³

Among the motifs are especially noticeable grapes and leaves which have been made more lifelike by a variety of colouring, Pl. XX, 6. It will suffice to compare these motifs with decorative details from Mathura in order to establish their close dependence upon Indian prototypes.⁴ »Jewels» surrounded by garlands of beads is another ornamental motif occurring both here and in the Yotkan finds.⁵

From the same ruin originates a group of reliefs showing the Buddha seated in meditative pose on a console decorated with lotus leaves, with a pointed aureole behind him, Pl. XIX, 2. These figures, too, retain traces of painting but are mostly in a bad state of preservation and are lacking in details. A characteristic feature of early representations of the seated Buddha is that his feet are hidden, and that a fold of his mantle falls between his knees. A striking resemblance to these reliefs, which no doubt formed parts of large mural decorations of aureoles, is shown

¹ Stein 1907, pl. LIV.

² Cf. Foucher, fig. 452. Waldschmidt, fig. 5.

³ Stein 1907, pl. LVII.

⁴ Foucher, fig. 94 B.

⁵ Cf. Stein 1907, pl. XLIV (Y. 0015, (Yotkan). Pl. LV (D. I. 44, Dandān Uiliq).

by the ordinary type of Lamaistic clay plaquettes. The latter, as we know, are used as reliquaries or amulets, but it does not seem improbable that the type has been evolved from the reliefs of fixed temple decorations.

Even in the Dandān-Uiliq collection there are fragments of Gandharva figures, that is to say, reliefs representing garland-holding celestial women, Pl. XIX, 6, 7. They are three in number, and all much worn and damaged. Their type has already been dealt with in the foregoing. All indications go to show that these reliefs, like the Buddha reliefs already referred to, formed part of mural decorations.

The motif of the figure rising only half-way behind a garland of leaves may possibly be connected with the popular Buddhistic-Lamaistic conception that deities are born through the medium of a lotus leaf resting on the water. Traces of paint can still be made out. The garland of lotus leaves through which the figure is in the act of rising was once painted blue, while the encircling string of beads exhibits remains of yellowish-grey paint. Illustrations of more complete examples are published by Hoernle and Stein.¹

All of the above-described objects from Dandān-Uiliq are in plaster of Paris and were manufactured in moulds. Their back presents a flat surface, but in this grooves have been incised in order to make them adhere better to the walls. By painting them in strong colours a more effective finish has been given them in spite of the plain material.

Of all the buildings in the ruined city nothing remains but the walls to a height of 1 to 1.5 metre, and wooden corner posts. It is therefore difficult to make any definite pronouncement on its architecture as such. It may, however, be accepted as probable that it consisted of simplified copies of Indian prototypes. An important detail was the passage formed between the outer wall of the cella and an encircling wall so as to make possible the ritual circumambulation, or *pradakṣiṇā*, which to this day plays an important part in the cult of Buddhism, cf. Fig. 32 f.

All the walls were evidently decorated with paintings, although these frequently consisted of stencil work of no artistic merit. The height to which the art of painting nevertheless was occasionally capable of attaining is illustrated by the excellent picture of a bathing woman discovered by Stein.²

I have already pointed out both resemblances and differences between the finds from Yotkan and those from Dandān-Uiliq. Taken all together, the material from the latter locality is of a finer character, more nearly approaching its Indian prototypes. Even Dr. Hedin, though early in the field, advanced the surmise that Yotkan was a town engaged in the commercial manufacture of pottery, while Dandān-Uiliq was a religious centre. No evidence has been forthcoming in disproof of this theory. It would be too rash to try fixing, by theoretical construction, the difference in dates between the periods of prosperity of these two localities. Both of them probably flourished for several centuries and were important parts of

¹ Hoernle 1902, pl. XII, 2. Stein 1907, pl. LVI.

² Stein 1907, Pl. II.

that cultural centre for the dissemination of neo-classically influenced Buddhist art which Khotan represented. From here the rich treasures of classical antiquity were passed on to the north and east under continual modifications according to Asiatic conceptions. At this spot was no doubt situated one of the most important stages along the route towards the art that in China and Japan attained such a brilliant standard of development. In fact, Sirén numbers Khotan among the localities that probably supplied artisans for the imposing cave temples of northern China. Nor can it be denied that, e.g., the huge reliefs of Yün-kang, sculptured in the living rock, exhibit a certain degree of kinship with the modest paintings and stucco decorations of Dandān-Uiliq.

In March 1928 this ruined site was visited by the German and Swiss explorers, Trinkler, De Terra and Bosshard, who carried out some excavation work there. This did not, however, yield any new discoveries.¹

Dr. Hedin's collection contains four fragments which differ from the rest as regards both material and style. It is true that two of them are illustrated in the work »En färd genom Asien» (Through Asia) and are there described as having come from the town of Taklamakan, i.e. Dandān-Uiliq, but this may possibly be due to an oversight, so that in reality they may originate from some other locality. If so, they were among the objects purchased from »treasure-seekers» of Khotan.

A feature common to them all is that the material is exceedingly hard, and that the surfaces, especially underneath, are full of deep cracks. The colour is grey, here and there shading into brown and blue-green. The material resembles natural stone to perfection, although it undoubtedly consists of a compound mass. Traces of reddish-brown paint are discernible in protected places.

These fragments originate from Buddha figures in relief, standing erect and with the right hand raised in *abhaya-mudrā*, while the left holds a corner of the mantle. Pl. XX, 1 shows an exceedingly fine Buddha head, bearing all the traditional attributes: the *urna*, i.e. the circular protuberance in the centre of the brow, *uśnīṣa*, the lock-covered bulge on the crown of the head, and extended ear-lobes.

Stein discovered in a mound of ruins known as Kighillik (»the Dunghill»), in the neighbourhood of Ak-sipil, several fragments which, judging from his description and illustrations, are exactly similar in character to the above-mentioned objects in the Hedin collection.² Comparative measurements show that the hand, Pl. XX, 2, is of exactly the same dimensions as its counterpart in a torso reproduced by Stein. It might have originated from the same mould. The same probably applies to the left hand, holding the mantle, Pl. XX, 3, which however in Stein's version is too badly damaged to admit of exact measurements' being taken.

It is quite obvious that this group of fragments is more closely connected with

¹ Cf. Trinkler, De Terra, Bosshard.

² Cf. Stein 1907, p. 477, pl. LXXX.

true Gandharan art than any other finds from Khotan. A comparison with the beautiful Gandharan statue of the Buddha that is preserved in the Museum für Völkerkunde in Berlin reveals how close these correspondences are.¹ At the same time it should be borne in mind that the Khotan reliefs were produced in moulds, which must have caused a certain blurring of details.

Stein very properly points out the resemblance existing between the Kighillik fragments and the reliefs excavated by him in the stupa at Rawak, which bore the remains of an exceedingly rich ornamentation.

There are undoubtedly good reasons for dating the fragments in question at a period when intercourse between Khotan and north Indian art centres was particularly intimate.

DISCOVERY OF THE RUINS OF KARA-DUNG.

A week after his visit to Dandān-Uiliq, Dr. Hedin with his small caravan had reached a wooded tract on Keriya-darya, known as Tonguz-basti, and there he learnt from a tribesman belonging to the local primitive pastoral inhabitants that the ruins of an ancient city lay one day's journey to the north-west. Carrying with them a small supply of water the expedition repaired to the place on February 2, and spent the following day in making a cursory examination of the locality. There are, it is true, no finds from this ruin in the collection, but as this discovery led to its being more thoroughly examined by Stein a few years later, Dr. Hedin's original notes are here quoted:

Monday, Feb. 2nd (Ride to Kara-dung).

»At last we have arrived at the famed Kara-dung, which is neither blacker nor more 'dung' than any other sand supplied with cones. It is, however, the dark-coloured *yulghun* (tamarisks) that have given rise to its name. It is rather characteristic that both the hunter of Khotan-darya and the shepherd of Keriya-darya call the site 'Kara-dung,' without ever having met or having an idea as to its distance from its nearest river. Our man Kasim, who has been here before (a five days' journey) turned back from here without knowing in the least that Keriya-darya, with both people and animals, was quite close. We camped on a flat piece of ground, between small-sized dunes, in one of which the nearest house was buried, with sticking-up *toghraq* posts of exactly the same appearance as in the previous ancient town. Red pottery fragments were found strewn about, and also necks of jars, Fig. 32 d. A couple of small bits of brass. One *arba* axle with one hub remaining, Fig. 32 i. This axle is constructed in exactly the same way as nowadays; nevertheless, long ages must have passed since it was possible to travel by *arba* over this now sand-buried tract. Thus there were in the middle portion of the axle two perforations for the attaching of the body of the vehicle, and at the ends perforations for linchpins. Firewood was plentiful about the camp, *terek* and *jigde* (oleaster), dead and dry as dust, and giving out a terrific heat. The house was built of *toghraq*.

¹ Le Coq, 1922/24, pl. 5. Waldschmidt, pl. 4.

Monday, February 3rd.

Took a walk among the ruins, and then returned to the 'lake'. Examined four houses. They date from exactly the same period as those of the previous town. In only one of the houses were found similar paintings on the wall-plaster, although here they were for the most part hopelessly damaged and generally impossible

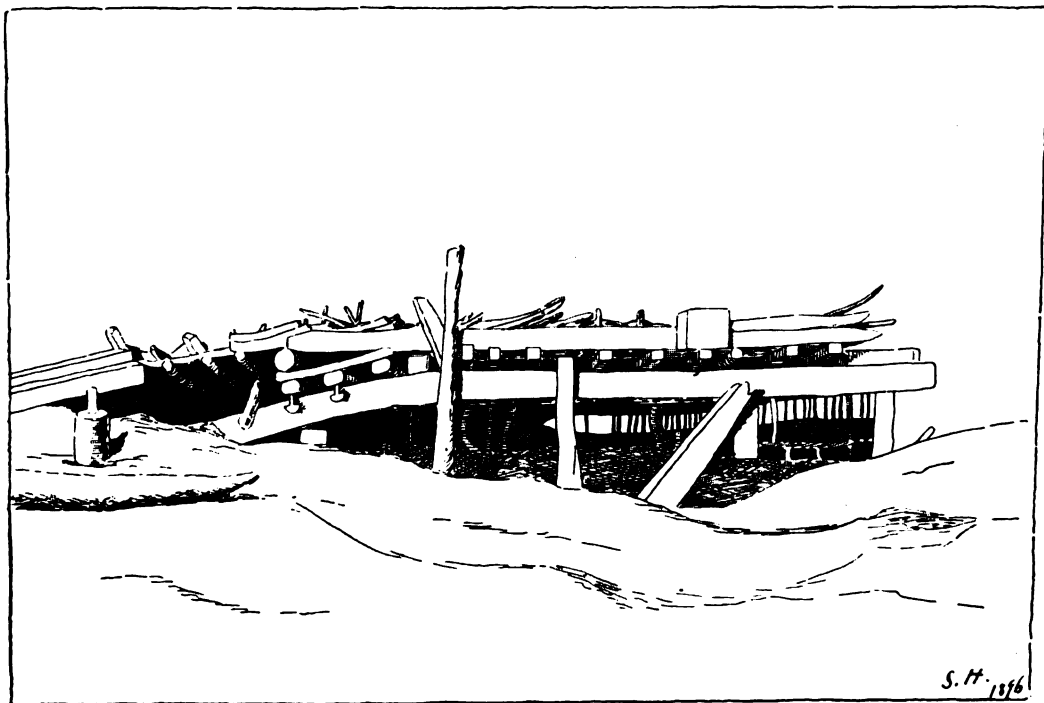


Fig. 31. From the ruins of Kara-dung. Sketch by Dr. Sven Hedin 1896.

to make out. Here and there were to be seen the upper portion of a face, or such-like. Also here the faces have a red circle on the forehead between the eyebrows. The houses are similarly constructed, and of *toghraq*. All about are seen *terek* and *jigde*. Pottery fragments quite common, and one or two bits of brass were also seen lying about. The site covered a considerable area, although apparently smaller than the one I have just visited. Strangely enough the houses seem to have been built on a scattered plan, without any system; at any rate big spaces now appear between them, and there is nothing to give any impression of streets. It must be borne in mind, however, that only solitary houses show up above the dunes, while no doubt a great many — at all events the majority — lie buried underneath the sand. The most remarkable among them was an immense house, most nearly resembling a modern *serai*, built as a square with the corners cut off, a large court in the middle where again a smaller, rectangular house had stood; its outer sides

measured 93 by 84 paces, Fig. 32 g. There remained only a number of upright posts, the cross-beams that had supported the floor and were about 4 m in length, and long posts. This house evidently consisted of two stories, if one may judge from crossbeams which are now projecting above the sand and must have been at a height of four to five metres above the then surface of the ground. Its general aspect was that of a narrow arcade, and of the central house several posts remained. Outside there is a comparatively well preserved building, or maybe the foundation of a verandah, cf. Fig. 31. It appears originally to have been constructed of interlocking and intercrossing beams. A third house was small, and built on the adjoined plan: *a* doors, *b* fireplace, fired to a red colour and in a good state of preservation, Fig. 32 h. The lintel was level with the present surface of the sand. Generally speaking, the houses were of small size, the proportions of the one here first described suggests its having been a public *serai* or temple. This ancient town is situated between two *dawāns*, a site no doubt formerly intersected by the river. On the far side of the western *dawān* no ruins are to be seen, but there, too, dead trees are found in a depression indicating an ancient river valley running parallel to the present rivers. The depressions and the streaks of *yulghun* (tamarisks) that we passed in the desert, all of them no doubt mark ancient beds of Keriya-darya. In a valley between two dunes there was a small rectangular clay terrace, very porous and breaking to pieces. In some of the houses, right among the posts, were still standing tamarisks that had been dead a very long time, with whitened limbs as brittle as glass. It was evident that they had grown up among the ruins, and therefore had not existed contemporary with the town. The latter must have been an abandoned ruined site at the time the trees took root, so that these flourished and died all in the same ruins. This my men considered as proving the high antiquity of the town.

A post, 4 m high, which has belonged to a house without a balcony, is provided with two mortices for holding horizontal beams that supported the flooring. This double-morticed piece of timber has served as a corner-post, Fig. 32 j. Any attempt at reconstructing a house of this kind would prove extremely difficult. Nothing is seen but an eroded skeleton, but nevertheless the plaster and the walls of these houses were of the same character as in the town previously examined, i.e. *qamish* (wattle of reeds), and on that mud and a white coat of plaster on the inner wall-face.

This town was situated not far from the river and was contemporaneous with the one previously examined».

After the ruins at Kara-dung had become known through Dr. Hedin's publications they were visited by Sir Aurel Stein in March, 1900. He subjected the site to a series of closer examinations, excavated certain sections of the great quadrangle, and made a map of the area.¹ It was then found that the central portion

¹ Stein 1907, Pl. XXXVIII.

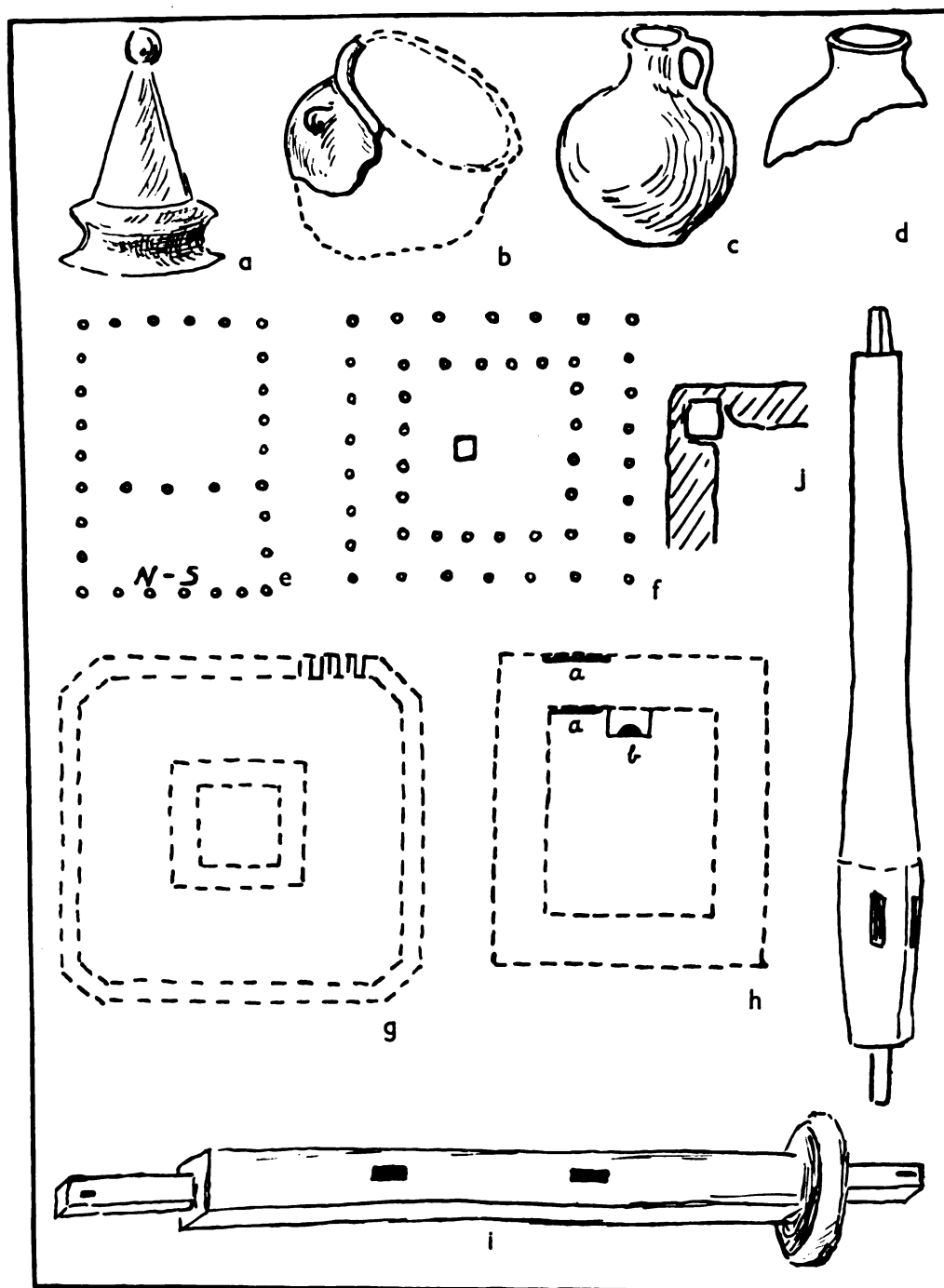


Fig. 32. Sketches made by Dr. Sven Hedin during his journey to Dandān-Uiliq and Kara-dung 1896.

had consisted of a ramparted court-yard, in the centre of which had stood a number of buildings constructed of timber and plaster. This mud-built embankment was at its base about 20 feet thick and formed the foundation of a building consisting of a long file of small rooms unconnected with one another. Only a few of these could then still be made out. The floors of the rooms on the embankment were 17 feet above the level of the ground. In the eastern section Stein excavated a large gateway which is identical with the building in Dr. Hedin's diary and is here reproduced from a sketch, Fig. 31.¹ Owing to the excellent protection afforded by the rampart, the gateway and its roof had been preserved in a fairly intact condition. Through the gateway led a central passage, 10 feet broad, which could be closed by means of a massive wooden door of two leaves, and cross-bars. Beside this there were two side passages, each 5 feet broad. The roof consisted of thick beams on the top of which was laid a thin layer of reeds, which in their turn were covered with a second layer of *toghraq* branches overlaid with stamped mud. 1½ foot in thickness. Stein agrees with the supposition that this had served as the flooring of a second storey, which may have been in the nature of a watch-tower.

Of detached objects very few finds were made: some fragments of glass or bronze, a spindle-whorl, an iron arrow-head, a comb of a type common in Northern India, and fragments of earthenware vessels. Of the coins recovered, some were of Wu-ch'u type and consequently of the Han dynasty or of the period succeeding its downfall. No objects of T'ang type were discovered.

From the above it may be concluded that the establishment was abandoned at an earlier date than Dandān-Uiliq. No remains of dwelling-houses appear to have been discovered by Stein.

Stein appears to agree with Dr. Hedin's supposition that the purpose of the structure must have been that of a *langar* or roadside caravan-serai. He also points out the probability of the important caravan route between Khotan and Kucha having passed here. The defensive character of the establishment makes it probable that it constituted a military outpost for safeguarding communication with the oases along the southern foot of Tien-shan.

At a ruined site located half a mile from the quadrangle excavations yielded no return for the trouble beyond a few coarse clay vessels.

(To be continued.)

¹ Cf. Stein 1907, vol. I, fig. 53.

LIST OF PLATES.

Terra-cottas from Yotkan, purchased at the site or in Khotan.

Pl. I. Reconstruction of terra-cotta jar with 3 handles. Cf. Pl. IV, 1 and text. p. 157.

Pl. II, 1. Reconstruction of terra-cotta jar with 3 handles. Cf. Pl. III, 2 and text p. 156.

Pl. II, 2. Reconstruction of terra-cotta jar with 3 handles. Cf. Pl. III, 3 and text p. 156.

Pl. III, 1 (03.11.335). Fragment of terra-cotta vessel, consisting of neck with appliqué moulded reliefs. Cf. Fig. 10 and text p. 167. Height 10.6 cm.

Pl. III, 2 (03.11.333). Terra-cotta jar, probably the best preserved one of the type with 3 handles. Two handles now missing but broken stumps indicate the places where they were attached. Below rim appliqué reliefs, leaves and grapes. Traces of appliqué reliefs at the sides of the handle, cf. Pl. VI, 2. See reconstruction Pl. II, 1 and text p. 156. Height 16.8 cm. Diameter of body 12.7 cm. Diameter of bottom 6.6 cm. Height of neck 7 cm.

Pl. III, 3 (03.11.334). Body of small terra-cotta jar with 3 handles. Cf. reconstruction Pl. II, 2 and text p. 156. Height 6.2 cm. Diameter of body 8.1 cm. Diameter of bottom 4 cm.

Pl. III, 4 a—c (03.11.245). Terra-cotta bífrons vessel. Almost perfectly preserved, only one of the projections above the ears missing. Cf. text p. 158. Height 9 cm. Depth face to face 7.1 cm.

Pl. IV, 1 (03.11.230, 234—01.23.30). Fragment of terra-cotta vessel with 3 handles. Neck and handles decorated with incised lines and circles. Appliqué reliefs. Cf. reconstruction Pl. I and text p. 157. Diameter of mouth 16.2 cm. Height 16 cm.

Pl. IV, 2 (03.11.308). Terra-cotta head of »griffin-handle». 5.4 × 3.7 cm.

Pl. IV, 3 (03.11.160). Terra-cotta mask, part of the decoration of large vessel. Cf. text p. 173. 5 × 4.6 cm.

Pl. IV, 4 (03.11.297). Handle of large vessel. Griffin shape with incised decoration. Made in two halves, in moulds, joined before firing. Cf. Figs. 6—7 and text p. 162. 18×10 cm.

Pl. IV, 5 (01.23.3. Högberg coll.). Fragment of large vessel with incised decoration and an appliqué moulded mask. Cf. p. 173. 10.1×8.7 cm.

Pl. IV, 6 (03.11.142). Fragment of large vessel with big appliqué moulded mask. Cf. Fig. 14 a and text p. 172. 8.7×7.1 cm.

Pl. V, 1 (01.23.1. Högberg coll.). Fragment of neck of big vessel with incised circles and appliqué moulded reliefs. Cf. Fig. 9 and text p. 165 et seq. Height 11.2 cm.

Pl. V, 2 (03.11.221). Fragment of neck of big vessel with appliqué moulded relief. Cf. text p. 165 et seq. 6.5×5 cm.

Pl. V, 3 (03.11.216). Fragment of neck of big vessel with appliqué moulded relief representing a Gandharva. Cf. Fig. 8 a and text p. 163 et seq. 9.5×7.8 cm.

Pl. V, 4 (03.11.220). Fragment of neck of big vessel with appliqué moulded relief representing a man raising a bowl. Cf. text p. 165. 7×5.3 cm.

Pl. VI, 1 (03.11.214). Fragment of shoulder of big vessel with appliqué moulded relief representing a griffin. Cf. Fig. 13 and text p. 171. 8×5.8 cm.

Pl. VI, 2 (03.11.229). Fragment of handle of terra-cotta vessel. At the sides two appliqué moulded reliefs. 5.4×5.3 cm.

Pl. VI, 3 (03.11.226). Fragment of neck of big vessel with appliqué moulded relief representing wrestlers. Cf. text p. 169. 5.4×5.3 cm.

Pl. VI, 4 (03.11.227). Fragment of neck of big vessel with appliqué moulded relief representing a man with a wine-bag (?). 5.3×4.3 cm.

Pl. VI, 5 (03.11.215). Fragment of terra-cotta object. Plain tile with appliqué moulded reliefs. Cf. text p. 177 et seq. 10.6×6.6 cm.

Pl. VII, 1 (03.11.303). Terra-cotta head of »lion-handle». Height 3 cm.

Pl. VII, 2 (01.23.15. Högberg coll.). Terra-cotta »lion-handle». Cf. text p. 160. 5.3×2.4 cm.

Pl. VII, 3 (03.11.304). Terra-cotta head of »griffin-handle». Height 3.7 cm.

Pl. VII, 4 (03.11.176). Terra-cotta mask. 3.4×3 cm.

Pl. VII, 5 (03.11.135). Head and upper part of body of terra-cotta animal figure. 4.5×3 cm.

Pl. VII, 6 (03.11.170). Terra-cotta mask. The rim partly missing. 4.8×3.7 cm.

Pl. VII, 7 (03.11.151). Terra-cotta mask with wide-open mouth. 4.8×4.6 cm.

Pl. VII, 8 (03.11.166). Terra-cotta mask from big vessel. 4.7×4 cm.

Pl. VIII, 1 (03.11.163). Terra-cotta mask. Cf. text p. 173. 5.4×3.5 cm.

Pl. VIII, 2 (01.23.4. Högberg coll.). Fragment of big vessel with appliqué moulded mask. Cf. text p. 174. 9.5×5.9 cm.

Pl. VIII, 3 (03.11.154). Fragment of big vessel with appliqué moulded mask. Cf. Fig. 15 and text p. 174. 4.9×4.7 cm.

Pl. VIII, 4 (03.11.182). Terra-cotta mask. Cf. text p. 173. 3.6×3.4 cm.

Pl. VIII, 5 (03.11.158). Terra-cotta mask. Cf. text p. 173. 5.7×5.4 cm.

Pl. VIII, 6 (03.11.149). Terra-cotta mask. Cf. text p. 173. 6.3×5.7 cm.

Pl. IX, 1 (03.11.262). Head of terra-cotta figure. Cf. text p. 180, Height 5.7 cm.

Pl. IX, 2 (03.11.259). Head of terra-cotta figure. Cf. Fig. 20 a and text p. 181. Height 6 cm.

Pl. IX, 3 (03.11.278). Terra-cotta relief. Probably the front part of head moulded in two halves. Height 5.2 cm.

Pl. IX, 4 (03.11.281). Head of terra-cotta figure. Height 3.8 cm.

Pl. IX, 5 (01.23.28. Högberg coll.). Head of terra-cotta figure. Cf. text p. 180. Height 4.5 cm.

Pl. IX, 6 (03.11.279). Terra-cotta relief. Probably the front part of head moulded in two halves. Height 5.5 cm.

Pl. IX, 7 (03.11.9). Terra-cotta figure. Arms and feet missing. Cf. text p. 180. Height 8.4 cm.

Pl. IX, 8 (01.23.25. Högborg coll.). Terra-cotta relief. Probably the front part of head moulded in two halves. Height 5.1 cm.

Pl. X, 1 (03.11.249). Terra-cotta head. 3.5×3.3 cm.

Pl. X, 2 (03.11.248 b). Terra-cotta relief. Cf. text p. 183. 4.6×2.7 cm.

Pl. X, 3 (03.11.252). Terra-cotta relief. Probably the front part of head moulded in two halves. Height 3.4 cm.

Pl. X, 4 (03.11.286). Terra-cotta relief. Probably part of appliqué decoration of vessel. Cf. text p. 184. Height 3.3 cm.

Pl. X, 5 (03.11.250). Terra-cotta relief. Probably the front part of head of figure moulded in two halves. Cf. text p. 183. Height 4.3 cm.

Pl. X, 6 (03.11.254). Terra-cotta head with big round ornament attached to vertex. 3.1×2.7 cm.

Pl. X, 7 (03.11.11). Terra-cotta figure. Left arm, right hand and legs missing. Cf. text p. 182 et seq. Height 5.6 cm.

Pl. X, 8 (03.11.10). Fragment of terra-cotta figure. Head missing. Cf. text p. 182. Height 6 cm.

Pl. XI, 1 (03.11.253). Fragment of terra-cotta head. Cf. text p. 183. 4.5×4.1 cm.

Pl. XI, 2 (03.11.260). Terra-cotta head. Hollow, with big round opening in vertex. Cf. text p. 181. Height 6.8 cm.

Pl. XI, 3 (03.11.263). Terra-cotta head with crescent-shaped ornament. Cf. Fig. 22 d and text p. 184. Height 5.7 cm.

Pl. XI, 4 (03.11.266). Terra-cotta head. Cf. Fig. 22 a and text p. 183. Height 4.4 cm.

Pl. XI, 5 (03.11.248 a). Terra-cotta head with deep hole drilled into vertex before firing, another hole from below. Height 3.3 cm.

Pl. XI, 6 (03.11.271). Terra-cotta head. The top broken. Cf. Fig. 22 b and text p. 183. Height 3.6 cm.

Pl. XI, 7 (03.11.224). Terra-cotta relief. Probably the front part of figure. From vertex a hole drilled. Cf. text p. 183.

Pl. XI, 8 (01.23.17. Högborg coll.). Terra-cotta relief. Cf. text p. 184. 4.9×3.7 cm.

Pl. XII, 1 (03.11.238). Terra-cotta fragment. Possibly part of big vessel. Appliqué moulded relief representing head of monkey, surrounded by leaves. 4.3×4.1 cm.

Pl. XII, 2 (03.11.225). Fragment of big vessel with appliqué moulded relief. Cf. text p. 170. 6.6×6.1 cm.

Pl. XII, 3 (03.11.244). Terra-cotta relief representing man with moustaches and beard. Cf. text p. 185. 13.6×5.8 cm.

Pl. XII, 4 (03.11.293). Moulded terra-cotta spout in the shape of a monkey-head with diadem and ear-ornaments. Cf. Fig. 27. 8.2×6.7 cm.

Pl. XIII, 1 (03.11.127). Terra-cotta figure representing Bactrian camel with riding monkey. Complete. Cf. text p. 192. 5.4×5.1 cm.

Pl. XIII, 2 (03.11.133). Fragment of terra-cotta horse. 5.5×3.5 cm.

Pl. XIII, 3 (03.11.131). Terra-cotta relief. Probably one part of figure moulded in two halves. 4.1×3.5 cm.

Pl. XIII, 4 (03.11.117). Fragment of terra-cotta horse with two riders. Cf. text p. 187. Height 7.2 cm.

Pl. XIII, 5 (03.11.132). Fragment of terra-cotta camel. The hind-legs missing. Cf. text p. 187. 7.9×7.9 cm.

Pl. XIV, 1 (03.11.316). Terra-cotta spout in shape of birds head. Cf. text p. 175. 5.2×3.7 cm.

Pl. XIV, 2 (01.23.6. Högborg coll.). Terra-cotta figure representing pig. Legs broken. Cf. text p. 189. 8.2×5 cm.

Pl. XIV, 3 (03.11.136). Terra-cotta relief representing *argali*. Cf. text p. 189. 3.6×2.5 cm.

Pl. XIV, 4 (03.11.134). Coarse terra-cotta handle in shape of animal. 4.2×3 cm.

Pl. XIV, 5 (03.11.296). Terra-cotta figure representing fish (?). The tail broken. Cf. text p. 189. Length 14.9 cm.

Pl. XV, 1 (03.11.294). Head of coarsely modelled monkey head. Height 5.1 cm.

Pl. XV, 2 (03.11.1). Terra-cotta figure representing kneeling monkey. Height 6 cm.

Pl. XV, 3 (01.23.43. Högberg coll.). Head and upper part of terra-cotta figure representing monkey playing the panpipe. Height 4.9 cm.

Pl. XV, 4 (03.11.8). Fragment of terra-cotta figure. Height 9 cm.

Pl. XV, 5 (03.11.2). Terra-cotta relief representing monkey with strongly marked phallus. Cf. text p. 190. 6.2×4 cm.

Pl. XVI, 1 (03.11.89). Fragment of terra-cotta figure representing monkey playing the *sitār*. 2.7×2.7 cm.

Pl. XVI, 2 (03.11.19). Terra-cotta figure representing kneeling monkey with child in the arms. Child's head and mother's right leg missing. Height 5.2 cm.

Pl. XVI, 3 (03.11.88). Fragment of terra-cotta figure representing monkey grasping a panpine with both hands. Height 2.3 cm.

Pl. XVI, 4 (03.11.92). Fragment of terra-cotta figure representing female monkey. Arms and legs broken. 3×1.9 cm.

Pl. XVI, 5 (03.11.71). Terra-cotta figure representing a cradle with child or monkey. 2.6×1.1 cm.

Pl. XVI, 6 (03.11.83). Terra-cotta figure representing monkey. Height 2.1 cm.

Pl. XVI, 7 (03.11.98). Fragment of terra-cotta figure representing eating monkey. 2.4×2.2 cm.

Pl. XVI, 8 (03.11.25). Terra-cotta figure representing kneeling monkey. Right leg missing. 3×1.6 cm.

Pl. XVI, 9 (03.11.64). Terra-cotta group representing two monkeys embracing amorously. The arms partly damaged. Height 3 cm.

Pl. XVI, 10 (03.11.62). Terra-cotta figure representing monkey climbing at a branch. Height 5.3 cm.

Pl. XVI, 11 (03.11.75). Terra-cotta figure representing hairy sitting monkey with left hand raised to the mouth. 3.7×1.7 cm.

Pl. XVI, 12 (03.11.35). Terra-cotta relief representing head and upper part of body of female monkey with well-developed breasts. Height 3.3 cm.

Pl. XVI, 13 (03.11.15). Terra-cotta figure showing kneeling monkey with apron-like kilt. He is eating, or playing the panpipe. Height 5 cm.

Pl. XVI, 14 (03.11.57). Terra-cotta group representing two sitting monkeys embracing amorously. The arms partly missing. 4.5×3.1 cm.

Pl. XVI, 15 (03.11.12). Terra-cotta figure representing female monkey. The arms missing. Height 4.8 cm.

Pl. XVII, 1 (03.11.49). Terra-cotta miniature monkey, kneeling. Height 2.2 cm.

Pl. XVII, 2 (03.11.50). Terra-cotta miniature monkey holding both hands to the chin. Height 1.4 cm.

Pl. XVII, 3 (03.11.37). Terra-cotta miniature monkey grasping a *sitār* with left hand, right hand missing. Height 1.8 cm.

Pl. XVII, 4 (03.11.40). Terra-cotta miniature monkey playing the *sitār*. Height 1.4 cm.

Pl. XVII, 5 (03.11.68). Terra-cotta grotesque figure showing a bird's body with tail and wings but with two owl-like monkey heads. 3.4×2.5 cm.

Pl. XVII, 6 (03.11.00). Terra-cotta miniature monkey, hairy, seated. Height 1 cm.

Pl. XVII, 7 (03.11.84). Terra-cotta miniature monkey, hairy, seated. Left arm missing. Height 2.1 cm.

Pl. XVII, 8 (03.11.36). Terra-cotta miniature monkey playing the *sitār*. Tail of hair on the back. Left hand missing. Height 2.4 cm.

Pl. XVII, 9 (03.11.45). Terra-cotta miniature monkey. 1.4×1.1 cm.

Pl. XVII, 10 (03.11.312). Fragment of terra-cotta animal. Head of a he-goat (?). Moulded in two halves. 2.1×2 cm.

Pl. XVII, 11 (03.11.138). Small handle from a vessel. In shape of a ring decorated with the head of a mouse. Cf. text p. 189. 3.4×1.6 cm.

Pl. XVII, 12 (03.11.324). Terra-cotta miniature flying bird made to string on a thread. Cf. text p. 188. 2×1.1 cm.

Pl. XVII, 13 (03.11.323). Terra-cotta miniature flying bird, with small stand. 2×1.8 cm.

Pl. XVII, 14 (03.11.330). Terra-cotta head of bird. White slip. 3×3.6 cm.

Pl. XVII, 15 (03.11.327). Terra-cotta miniature bird. 2.2×2.1 cm.

Pl. XVII, 16 (03.11.338). Miniature terra-cotta vessel. The handle partly broken. Cf. text p. 155. Height 2.1 cm.

Pl. XVII, 17 (03.11.340). Miniature terra-cotta vessel. Cf. text p. 156. Height 1.4 cm.

Pl. XVII, 18 (03.11.342). Miniature terra-cotta vessel. Cf. text p. 156. 1.4×1 cm.

Pl. XVII, 19 (03.11.337). Miniature terra-cotta vessel. Cf. text p. 156. Height 2 cm.

Pl. XVII, 20 (03.11.339). Miniature terra-cotta vessel. Cf. text p. 156. Height 1.9 cm.

Pl. XVII, 21 (03.11.341). Miniature terra-cotta vessel with one handle. Cf. text p. 155. Height 3 cm.

Pl. XVII, 22 (01.23.49. Högberg coll.). Miniature terra-cotta vessel with 3 handles. Very crude incised decoration. Cf. text p. 157. Height 4 cm.

Pl. XVII, 23 (03.11.343). Miniature terra-cotta vessel with one handle. Crude incised decoration. Cf. text p. 155. Height 2.3 cm.

Objects excavated or found at Dandān-Uiliq (Takla-makan).

Pl. XVIII, 1 (03.11.376). Stucco fragment (plaster of Paris). Standing Buddha. Russet mantle, green undergarment, black hair. Feet and pedestal missing. Cf. text p. 200. Height 17 cm.

Pl. XVIII, 2 (03.11.372). Stucco fragment (pl. o. P.). Standing Buddha. Replica Pl. XVIII, 1. Height with pedestal 23 cm.

Pl. XVIII, 3 (03.11.378). Stucco fragment (pl. o. P.). Standing Buddha. Head missing. Replica Pl. XVIII, 1. Height 17.8 cm.

Pl. XVIII, 4 (03.11.374). Stucco fragment (pl. o. P.). Standing Buddha. Head, feet and pedestal missing. Replica Pl. XVIII, 1. Height 13.5 cm.

Pl. XVIII, 5 (03.11.379). Stucco fragment (pl. o. P.). Lower part of standing Buddha with deep-red mantle and lighter russet undergarment. The adhering wall-portion blue. 12.2×7.7 cm.

Pl. XVIII, 6 (03.11.373). Stucco fragment (pl. o. P.). Standing Buddha. Head, feet, pedestal missing. Deep-red mantle, lighter russet undergarment. Height 14.2 cm.

Pl. XIX, 1 (03.11.396). Stucco fragment (pl. o. P.). Border of aureole, half-round moulding representing overlapping lotus-petals. Alternate sections coloured green and brown. 11.5×3 cm.

Pl. XIX, 2 (03.11.383). Stucco fragment (pl. o. P.). Seated Bodhisattva on half-open lotus. Vesica with traces of deep-red colour. Hands resting in lap, robe concealing feet. Cf. text p. 201. 11.4×7.7 cm.

Pl. XIX, 3 (03.11.399). Stucco fragment (pl. o. P.). Replica Pl. XIX, 1. 9.3×3 cm.

Pl. XIX, 4 (03.11.390). Stucco fragment (pl. o. P.). Probably part of border of vesica. Jewel composed of ovoid cartouche, two fillets and row of beads. 6.3×4.8 cm. Cf. text p. 201.

Pl. XIX, 5 (03.11.391). Stucco fragment (pl. o. P.). Two rows of lotus-petals overlapping. 10×7.6 cm.

Pl. XIX, 6 (03.11.381). Stucco fragment (pl. o. P.). Fragment of Gandharva-figure rising from a lotus. Garland of beads hanging down from the raised, now

missing hands. Head missing. The lotus shows traces of blue colour, the beads of yellowish. Cf. text p. 202. 10.7×10.5 cm.

Pl. XIX, 7 (03.11.380). Stucco fragment (pl. o. P.) of Gandharvafigure. Lower part missing. 11.1×10 cm.

Pl. XX, 1 (03.11.386). Stucco head. From Ak-sipil? Buddha head with *urna* and *uśnīṣa*. Cf. text p. 203. 6×4.9 cm.

Pl. XX, 2 (03.11.389). Stucco fragment. Ak-sipil? The right arm and hand of standing Buddha. Cf. text p. 203. 8.2×3.4 cm.

Pl. XX, 3 (03.11.387). Stucco fragment. Ak-sipil? The left hand and forearm of standing Buddha grasping mantle. Cf. text p. 203. 6.3×4.6 cm.

Pl. XX, 4 (03.11.392). Stucco fragment. Portion of border, composed of overlapping chrysanthemum leaves. Traces of blue and russet colours. 12.4×6.3 cm.

Pl. XX, 5 (03.11.394). Stucco fragment. Portion of border composed of beads and a single row of lotus-leaves. Traces of red colour. 10.7×3.7 cm.

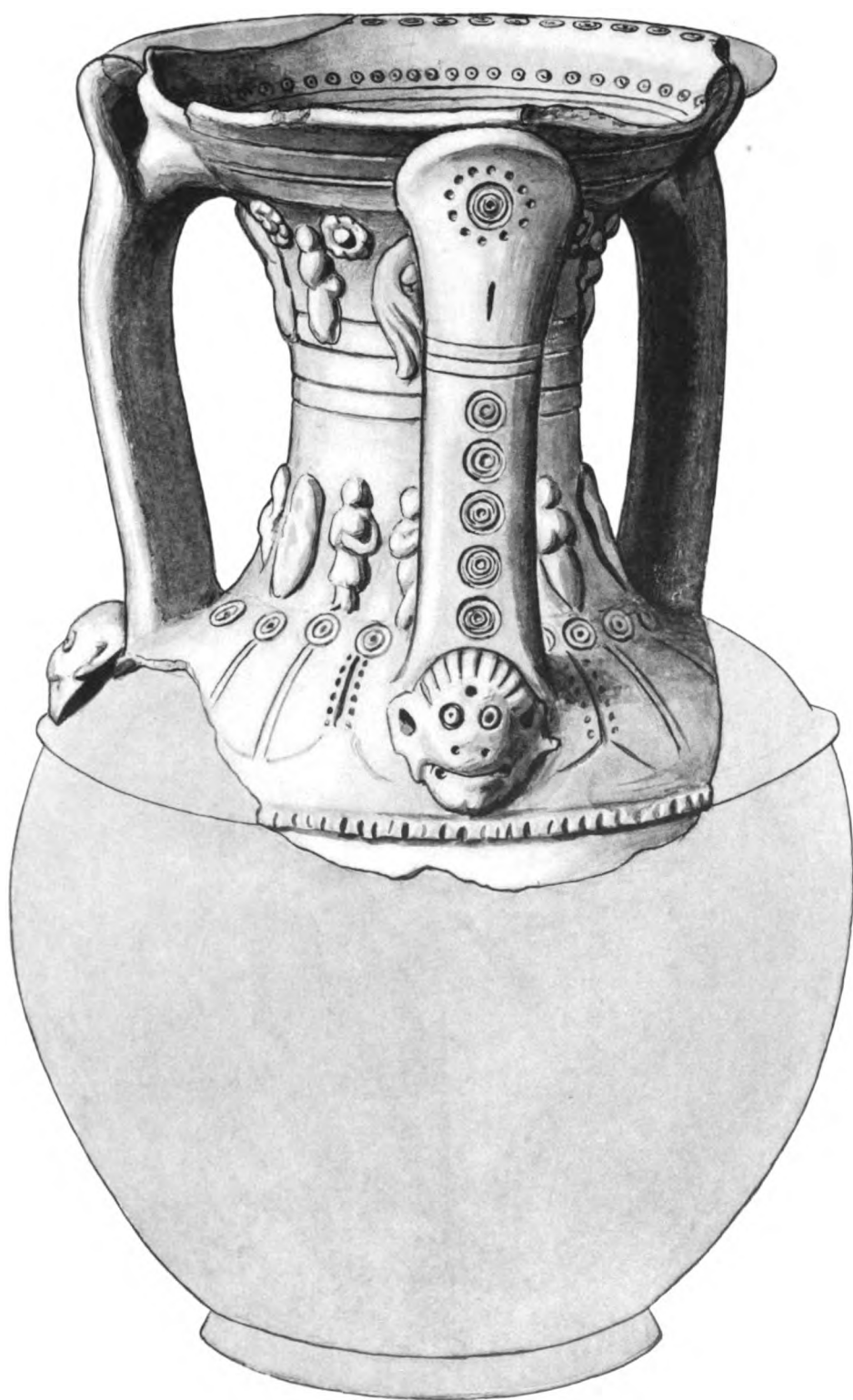
Pl. XX, 6 (03.11.393). Stucco fragment. Portion of curved border with wine-leaves and grapes in low relief. Colouring in alternate sections blue and russet. Cf. text p. 201. 12×5.5 cm.

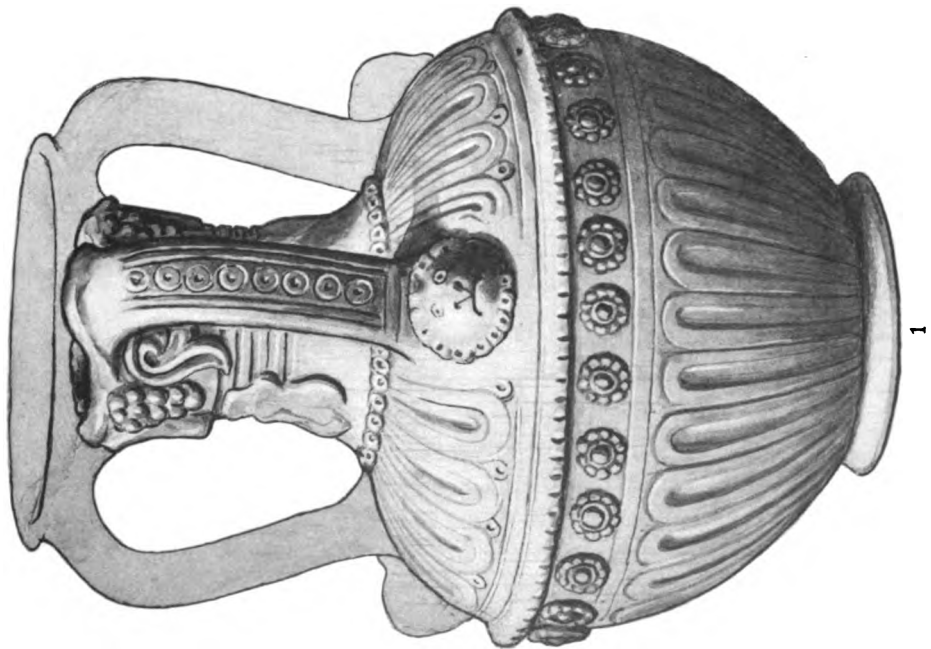
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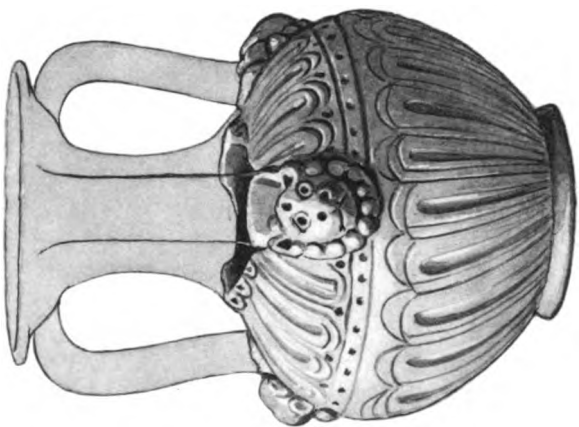
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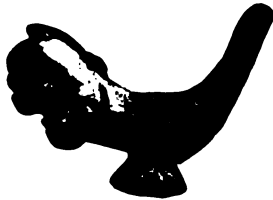
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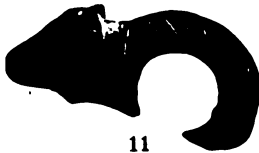
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